Submitted To
CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
Sacramento, CA 95814-5112

July 19, 2012

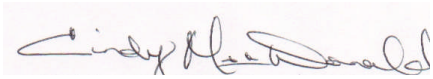
RE: HIDDEN HILLS SOLAR ELECTRIC GENERATING SYSTEM
APPLICATION FOR CERTIFICATION 11-AFC-02

Dear Commissioners:

Please accept the following submission, "Supplemental Comments and Analysis" for consideration and incorporation into the California Energy Commission's Final Staff Assessment regarding the Application for Certification of the Hidden Hills Solar Electric Generating System.

Thank you for the opportunity to participate in the management of our Nation's irreplaceable resources.

Sincerely,



Cindy R. MacDonald

HIDDEN HILLS SOLAR ELECTRIC GENERATING SYSTEM

SUPPLEMENTAL

COMMENTS & ANALYSIS

SUBMITTED BY C.R. MACDONALD

JULY 2012

TO

CALIFORNIA ENERGY COMMISSION

PROLOGUE

A CONVERSATION WITH MOM

"*Is there anyway to make them accountable for all the questions they are not answering*?" my Mom asked me.

"*No*", I said, "*there isn't. It will most likely be approved no matter what and then we will have the burden of having to take it to court."*

"*If we were able to take it to court, would a judge stop it until they answered the questions*?" she asked.

"*Well, the best we can hope for is IF we could take them to court and overwhelmingly prove our case, the judge might be convinced to issue a temporary restraining order until they go back and answer the questions through another environmental review process."* I replied.

"*Well, why don't they just do what they are suppose to, answer the questions and do a proper review now?"* she queried further.

"*I don't know Mom, I just don't know….*" was all I could say.

SUPPLEMENTAL
COMMENTS & ANALYSIS
SUBMITTED BY C.R. MACDONALD
TO CALIFORNIA ENERGY COMMISSION

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Our Lady Desert

It takes a special vision
a perspective deeper than sight
to see beyond the obvious
when the days so blinding bright

To most, a dry and desolate zone
devoid of life and soul
a wasteland not fit for growth
a forgotten, empty hole

That is how it should be
for great teachers are hard to find
one must search for Masters
every View deserves a climb

What it teaches to strangers
is not what it teaches to friends
but once youíve known Her heart
the adventure will never end

First, it shows us power
harsh, raw or sublime
from racing winds and torrential floods
to hot outside of time

It does not flaunt its treasures
for its hidden beneath prickly brush
in this dangerous land of bleakness
no man's too eager to rush

As with any powerful monarch
ones steps must be confident and sure
those who think to tame it
sit patiently watching Her

Meet our Lady Desert
as she opens up Her heart
sheís as honest with her passions
as sheís gentle with her parts

Sheíll teach you about simple beauty
with a lonely purple flower
or dazzle you with splendor
of a crimson sunset hour

Sheíll enchant you with Her moonbeams
encompassing miles in a silvery glow
or terrify your heart to still
with an explosive lightening show

Sheíll teach you of true freedom
so your spirit will no longer stand
to be chained in concrete and wires
in the blaring lands of Man

Youíll know about style and grace
as a lone hawk circles above
in a reaching, widening big blue sky
a sky youíll learn to love

She'll teach you how to be alone
to be silent in your domain
though you may seek to tame her
you'll see who's really tame

She teaches you of subtlties
with layers of gold and brown
and you'll know how precious water is
since water can't be found

Yes, you'll truly learn the value
of a towering emerald tree
that stands so sharp in contrast
in a bleached and whitened sea

She causes you to look
to examine what's within
since there's not much distraction
an inward journey will begin

But most of all, you'll learn
in a place so barren to see
that life is everywhere around us
and from that life you'll never be free

Cindy....10/88

GENERAL

“The devil is in the details.”

1. GENERAL

This is the second comment submission regarding the Application for Certification for the proposed Hidden Hills Solar Electric Generating System (11-AFC-02). This submission should be considered supplemental too, but not a replacement of, the first submission. All page numbers cited are from the pdf. format and do not represent the actual page numbers specific to the documents.

1. CEQA CRITERIA

Background

Throughout the AFC files and subsequent Staff assessments such as the Preliminary Staff Assessment, both parties liberally discuss and analyze potential impacts of the proposed project by evaluating those impacts according to a perceived level of significance.

However, during these evaluations, there have been multiple times when applicant and Staff have disagreed as to what the significance determination levels are. For example, the applicant may have issued a determination that a particular aspect of the proposed project's direct, indirect and cumulative impact is "less than significant" while Staff may have disagreed and issued a determination of "significant" or "potentially significant".

After considerable review of the AFC files and all subsequent documents related to the planning efforts of the proposed project, I could not find a single source of guidance that defines standards or guidelines for how "significant/less than significant" determinations are rendered.

In some cases, determinations are quite clear. For example, if the proposed project would result in the total destruction of a cultural resource, obviously that impact is significant as it results in a 100% permanent loss of that resource. However, many of the areas being evaluated for significance levels are not this clear.

First, in most instances, the beginning level of impact or "significance thresholds" are never quantified, so there is nothing to compare the level of effectiveness of proposed mitigation measures against. This is then compounded by statements – without supporting data - that assure mitigation measures will reduce impacts to "less than significant" without quantifying the degree of effectiveness these measures will accomplish either.

Another common example that illustrates this point is found in proposed mitigation measures that allege the measure will simply "reduce" significant or potentially significant impacts without any further quantification. In other words, a mitigation measure may merely reduce an impact by as little as 1%, which is less than significant, but is still touted as an effective measure that reduces adverse environmental impacts.

Another example includes the definition or explanation of what a "reduction" in impact is versus reducing an impact to "less than significant" means in terms of percentage values.

Questions

1. What are the criteria the CEC Staff used to determine a significant, potentially significant, and less than significant impact?

2. What are the percentage values of each of these three major determinations outlined above?

3. What are the definitions and criteria used by the CEC Staff for "reduced" and "reduction" in impacts? Can the use of these terms be as little as 1% and still be considered an effective mitigation measure capable of offsetting adverse impacts?

4. In each section of the CEC Staff analysis, most of the areas that were reviewed failed to have a clearly established or defined "significance threshold". Would Staff please include the significance threshold for each area analyzed for impacts regarding the proposed project in the Final Staff Assessment?

5. When the CEC Staff describes the effectiveness of proposed mitigation measures in the Final Staff Assessment, will they please provide references to data that supports that effectiveness and to what degree it will be effective in reducing impacts versus general statements of determinations that cannot be verified?

2. PROJECT REVIEW UNDER NEPA

Background

During the July 9, 2012, CEC Status Conference, the applicant admonished the CEC Staff for what they felt was their undue concern and analysis of the "Nevada" side of the border. The applicant justified this reasoning by making the statement that the BLM would be evaluating the proposed project as a connective action under NEPA and so, CEC Staff was a) out of their jurisdiction and b) they were repeating work that would be done by the Nevada BLM.

I have seen no documents that support the applicant's statement that the proposed project, in its entirety, will be analyzed by the BLM. The only clearly described NEPA analysis being performed by the BLM is an Environmental Impact Statement regarding the proposed transmission system and gas pipeline.

Questions

1. Is there any written documentation the CEC Staff is aware of that validates and/or refutes the applicant's statement that the proposed HHSEGS will be evaluated in its entirety under NEPA analysis by the BLM?

INFRASTRUCTURE ASSESSMENT

FOR THE PROPOSED SITING OF THE
HIDDEN HILLS SOLAR ELECTRIC GENERATING SYSTEM

"It was a dark, dark night of the collective soul."

2. INFRASTRUCTURE ASSESSMENT FOR THE PROPOSED SITING OF THE HHSEGS

This is the second comment submission regarding the Application for Certification for the proposed Hidden Hills Solar Electric Generating System (11-AFC-02). This submission should be considered supplemental too, but not a replacement of, the first submission. All page numbers cited are from the pdf. format and do not represent the actual page numbers specific to the documents.

The Hidden Hills Solar Electric Generating System has filed an Application for Certification (AFC) to construct and operate a hybrid solar generating electrical power plant on land located in a remote area on the California/Nevada border.

In order to serve the needs of the power plant, certain infrastructure requirements are necessary, none of which have been found to be reasonably available in the vicinity of the proposed project site. As a result, this lack of viable infrastructure components has significantly contributed to delays in the siting process, caused excessive research efforts to CEC Staff in order to find resolutions, placed undue burdens on Inyo County and other related agencies, invoked jurisdictional complications, increased costs associated with its construction and operation, will result in placing disproportionate burdens on out of state services, facilities, and resources to service the proposed project site, and cannot adequately ensure public health and safety should the proposed project be approved. As a result of the identified issues summarized below, the proposed project site cannot be considered adequate, suitable, acceptable or appropriate.

TABLE 1: INFRASTRUCTURE ASSESSMENT
HIDDEN HILLS SOLAR ELECTRIC GENERATING SYSTEM

INFRASTRUCTURE RESOURCE	REASONABLY AVAILABLE?	
	YES	NO
LAND		X
ROADWAYS		X
WATER		X
WASTE MANAGEMENT		X
TRANSMISSION LINES		X
NATURAL GAS SUPPLY		X
TELECOMMUNICATIONS		X
LAW ENFORCEMENT		X
FIRE/EMERGENCY SERVICES		X
LABOR		X

Source: C.R. MacDonald

LAND

Reasonable Costs

While the land resource itself appears reasonably available via a lease agreement between the applicant and the current landowner, whether the terms of the lease agreement are reasonable, economically viable, advantageous, appropriate, or acceptable remains unverified and therefore, in dispute.

For example, according to Title 20, California Administrative Code 20 CCR § 3.6, various disclosure facts are required surrounding the acquisitions of public utilities. These outline the intent of how disclosure of the terms, costs, balance sheets, etc., serve the public interest through their availability for inspection and review. Though the filing for the Application for Certification is reviewed under Title 20, Chapter 5, Site Certification, there are similar provisions provided to address the intent of sufficiently acceptable sites based on economic acceptability of each site, such set forth in Site Certification, Article 2, 20 CCR § 1721

Because the reasonableness and appropriateness of the terms, costs, payments, associated debts, etc. associated with the land and the lease agreement remain unknown, it is impossible to determine its economic advantages and disadvantages compared to relative costs or alternative sites.

Of additional concern is the potential that the lease agreement may contain inappropriate terms that allow for excessive financial compensation to the landowner in order to secure the landowners support. The applicant may then intend to offset this excessive compensation by ultimately passing costs on to the ratepayer and/or reimburse itself through tax exemptions or other taxpayer funded programs that are currently sponsoring renewable energy projects or through utilizing both options to maximize returns.

Land Use Conformance and LORS

As it stands, the proposed project site is in nonconformance with current land use plans, zoning restrictions and applicable LORS. This has resulted in months of complicated negotiations, questions regarding how to achieve legal compliance in relation to the AFC process and Inyo County's legal land use planning requirements as well as placing extraordinary demands upon the County to expedite resolving this noncompliance.

In short, the lack of land use compliance in relation to project siting has caused increased strain on regulatory efforts, additional burdens, complications, and unresolved legal issues at the center of trying to determine feasible resolutions with respect to how to obtain project siting approval and still be in compliance with applicable LORS.

Of additional concern is, while there are legal and public processes available that can eventually achieve land use LORS and project compliance, the methods that have so far been employed to make "progress" towards that end could be considered questionable.

Specifically, Inyo County has repeatedly stated that a variety of options were available that would initiate the legal changes necessary for land use compliance in relation to the proposed site. Yet nearly a year has passed since Inyo County first began discussions with the applicant regarding the current noncompliance land use situation. As the months have dragged on, the applicant, CEC Staff and County have all referred to a "complicated legal process" that sounds like little more than haggling behind the scenes as everyone works out the "terms" such as "County indemnification" and "point of sale" contracts should the proposed project be approved.

In other words, the evidence indicates everybody has been working out the terms, arrangements and "compensatory packages" before the public every gets a chance to participate in the process. Therefore, it is reasonable to assume that whatever changes are made to ensure project compliance and LORS conformance will not be a result of a real public process but instead, will just be a rubber stamped deal foisted on the public with its pre-approved conditions, pre-negotiated terms and pre-determined outcomes.

As a result, the infrastructure requirements for land suitable for project siting of the proposed Hidden Hills Solar Electric Generating System cannot be considered reasonably available.

ROADWAYS

Site access is available through existing roadways, which include the Nevada based SR160, the California based Highway 127 and the Old Spanish Trail Highway (Tecopa Road), the only direct access road to the proposed project site in both Nevada and California. However, while SR160 is sufficiently built to support the projected increases in delivery trucks and worker travel, Old Spanish Trail Highway is not. It will require complete repaving on both the Nevada and California side for a minimum estimated distance of approximately 13.2 miles (9.8 miles from the Nevada State Line to SR160(1) and 3.4 miles from the California State line to the west entrance of the proposed project site(2).)

Currently, planning efforts indicate 100% of truck traffic will be routed through the Nevada based SR160/Old Spanish Trails Highway juncture to access the proposed project site, even if those trucks initially departed from California. This route has been recommended as a proposed mitigation measure in efforts to offset significant public safety hazards associated with Emmigrant Pass. It will also circumvent repaving costs of $8.1 million dollars(3) because the current condition of the Old Spanish Trail Highway is wholly inadequate to sustain the severe truck loads associated with the construction and operations of the proposed project.

(1) AFC files, Natural Gas Supply, pg. 1
(2) Staff's Fiscal Impacts Study, TN-65530, Socioeconomic and Fiscal Impacts of the HHSEGS of Inyo County, pg. 22
(3) 2012-02-22 Letter Re: Socio Economic Impacts To Inyo County, TN-63719, pg. 3.

California based truck deliveries will share the common denominator of having to travel through Baker, CA, whether they utilize the Nevada based route or the California based route.

If truck deliveries associated with the construction and operation of the proposed project do not utilize the Nevada based SR160 access route, the only other option to connect to the Old Spanish Trail Highway is by utilizing Highway 127, which begins at Baker, CA. This juncture is located 77.8 miles from Tecopa(1) , which is approximately 30.1 miles away from the proposed project site(2). All total, the California route to the site is approximately 108 miles from Baker, CA.

If truck deliveries utilize the California to Nevada based route as is currently be proposed, trucks will travel 94 miles(3) to reach Las Vegas and then an additional 45 miles(4) to the project site through the SR160 route. All total, the California/Nevada route is approximately 139 miles.

TABLE 2. MILES TO HHSEGS PROJECT SITE

FROM CA I15	TO	# OF MILES
BAKER/HWY 127	TECOPA	77.8
TECOPA	PROJECT SITE	30.1
BAKER	LAS VEGAS	94
LAS VEGAS	PROJECT SITE	45

However, hazardous waste transport under California Vehicle Code, Section 31303, requires that hazardous materials be transported utilizing the shortest overall transit time and trucks are the sole source of transport method for hazardous materials. If the applicant transports hazardous materials to the site from California using the Nevada based route as is so far proposed, it results in 31 miles of hazardous materials transport that the California based route would eliminate.

This obviously presents a significant conflict with the proposed mitigation route of using SR160 solely for truck deliveries. Alternately, if hazardous materials are transported via the shorter route using Highway 127, the well-acknowledged dangers to public safety by routing trucks through Emmigrant Pass will result in substantially higher risks - and those risks are the root of why the CEC Staff recommend the exclusive use of SR160 for truck deliveries as well as reducing the significant costs associated with repaving necessary to insure adequate road conditions.

As a result, the infrastructure requirements for roadways providing access to the proposed Hidden Hills Solar Electric Generating System site are not reasonably available.

(1) SOURCE: BAKER JUNCTION/HWY 127 to TECOPA: Google Maps at: maps.google,com
(2) TECOPA TO PROJECT SITE: Ltr. From Inyo County Public Works to CEC, 2/16/12
(3) BAKER TO LAS VEGAS: Travel Math http://www.travelmath.com/drive-distance/from/Las+Vegas,+NV/to/Baker,+CA
(4) LAS VEGAS TO PROJECT SITE: CEC Hidden Hills Home Page, http://www.energy.ca.gov/sitingcases/hiddenhills/

WATER

The proposed project site intends to withdraw water from the Pahrump Valley Groundwater Basin (PVGB). This basin has long been acknowledged to be in a state of overdraft and current use authorizations for Pahrump far exceed existing water supply or recharge capacity.

Almost all the water withdrawn from the PVGB has predominately occurred through Pahrump and authorizations regulated by the Nevada State Engineer. However, because the proposed project will be sited along the California border, the applicant will not be required to apply or conform to the regulatory authority of the Nevada State Engineer regarding feasible water allocations or connective impacts to the community of Pahrump.

With respect to the southern portion of the PVGB, the CEC Staff has demonstrated long term declining trends in water levels surrounding the proposed project site. These declines have indicated no recharge or stabilization has occurred in the proposed project's zone of impact for approximately 50 years.

Additionally, important biological resources and landscapes have been identified as potentially being impacted from project water withdrawal as well. Concerns are so great regarding these potential impacts that the CEC Staff has proposed a mitigation measure (Bio-24) that will mandate project pumping must cease if drawdown triggers critical use levels. In response, the applicant recently stated at the July 9, 2012, CEC Status Conference that a mandate requiring a cessation of operations as a Condition of Certification would make the project infeasible. Though the applicant could conceivably purchase the water necessary to continue construction and operations of the proposed HHSEGS, obviously only "free" water is considered cost effective enough for the applicant to consider moving the proposed project forward.

While the proposed project is now reporting a projected operational requirement of 140 AFY of water, which could be considered reasonable use considering the size of the HHSEGS, the original AFC data stated they would require 400 AFY. Later, the applicant withdrew this figure citing a mistake had occurred in the AFC file preparation. However, evidence indicates the applicant may intend to petition the CEC for an amendment to increase water use (as has occurred in the Ivanpah Plant) once the project is approved. There is also evidence to indicate the applicant may be capable of withdrawing significantly greater amounts of water outside the project boundaries due to pre-existing water rights connected with the terms of the lease.

At the existing level of proposed use of 140 AFY for operations, the proposed project has the potential to cause significant adverse affects to water resources, water dependent vegetation and the local community of Charleston View. This would obviously be greatly exasperated should the applicant require any more water to sustain the proposed project.

As a result, the infrastructure requirements for water resources necessary to construct and operate the proposed Hidden Hills Solar Electric Generating System site cannot be considered reasonably available.

WASTE MANAGEMENT

Due to the remote location the proposed project will be sited in, California is not capable of reasonably accommodating solid or hazardous waste disposal. As a result, the majority of waste generated from the construction and operation of the HHSEGS will need to utilize out of state services, systems and facilities.

Solid Waste Management

While Inyo County estimated a funding increase of $156k for solid waste management during the construction phase of the project, the CEC Staff estimates Inyo County will require a zero increase of funding. Neither estimate seemed to incorporate the fact that there are no solid waste facilities located in California to serve the currently residing community or the project site. All solid waste management is currently handled through Nevada due to an agreement between Inyo and Nye County, which requires Inyo County to reimburse Nevada for its services.

Currently, solid waste disposal requirements are small with local dumpsters readily accessible directly adjacent to the Old Spanish Trail Highway and to one of the currently proposed site access points. With the projected extreme rise in temporary populations during the construction portion of the project as well as the addition of 120 full time employees during the life of the project, Inyo County's reimbursement costs to Nye County will undoubtedly rise significantly during the construction portion of the project and to some degree over the life of the project.

Additionally, as with everything else regarding the projects required infrastructure needs, services are not available in California for solid waste disposal and approval of the proposed project without necessary funding to establish infrastructure services in the project vicinity will only continue to increase California's dependence on Nevada to facilitate public services that are ultimately, California's responsibility. This also simultaneously prevents necessary infrastructure growth that in turn would lead to long-term economic benefits to California versus continuing the trend of displacing those same economic benefits to Nevada instead.

Hazardous Waste Management

Currently, the state that will handle the disposal of hazardous waste has not yet been identified. According to the CEC Preliminary Staff Assessment, three sites are listed as most likely to be utilized for hazardous waste disposal, one in Nevada and two in California.

If California disposal sites are utilized, it triggers issues identified in the Roadway section of this assessment. If Nevada disposal sites are utilized, it continues to shift the burden of infrastructure requirements of the proposed project to out of state facilities.

As a result, the infrastructure requirements for waste management services necessary to construct and operate the proposed Hidden Hills Solar Electric Generating System site cannot be considered reasonably available.

TRANSMISSION LINES

Currently, the proposed project will be sited at a location that does not have functional transmission lines capable of transporting the generated power for grid integration and electrical service. In order to make the proposed project feasible, two options are being considered.

The first option will require the installation of approximately 39 miles of transmission lines(1) from the proposed project site to Pahrump in order to connect with the Valley Electric Association, now currently attempting to turn operational control of its facilities over to the California Independent System Operator (CAISO). If this process is unsuccessful, the applicant will have to utilize option two.

The second option will require the installation of approximately 64 miles of transmission lines that will connect to the Eldorado Substation in Boulder City, Nevada(1).

The lack of reasonably available transmission system access has also resulted in the initiation of additional project review and compliance determinations that require federal involvement through the Bureau of Land Management. The BLM must also provide a separate analysis of the proposed project's impacts under NEPA compliance and consequently, the preparation of an Environmental Impact Statement, which in essence resulted in doubling of the regulatory efforts necessary to achieve project compliance with applicable LORS.

Finally, the applicant has proposed revising the switchyard site, which may or may not be located in California.

As a result, the infrastructure requirements for transmission system engineering necessary to operate the proposed Hidden Hills Solar Electric Generating System site cannot be considered reasonably available.

NATURAL GAS SUPPLY

The proposed project site has no currently available access to a natural gas supply. As a result, approximately 35.3 miles of a 12-16 inch gas pipeline must be installed before the proposed project can even be considered feasible(2).

As with the lack of transmission system access, the lack of natural gas access also required the doubling of regulatory efforts associated with BLM and NEPA review.

As a result, the infrastructure requirements for a functional natural gas supply line necessary to operate the proposed Hidden Hills Solar Electric Generating System site cannot be considered reasonably available.

(1) AFC files, Transmission System Engineering, pg. 2.
(2) AFC files, Natural Gas Supply, pg. 1.

TELECOMMUNICATIONS

Due to the remote nature of the proposed project site, reliable telecommunication services are not available.

This has resulted in delays and variable connection routes to calls placed to law enforcement officials and emergency fire and medical services. It has also resulted in a request from Inyo County for funding of 30 months of a high-speed communications system(1), which will terminate after the construction phase of the proposed project, and a need to install a cell phone tower to insure reliable cell phone service.

As a result, the infrastructure requirements for a functional telecommunications system necessary to construct, operate and ensure public safety at the proposed Hidden Hills Solar Electric Generating System site cannot be considered reasonably available.

LAW ENFORCEMENT

Currently, Inyo County based law enforcement response times to the proposed project site are estimated to range between 30 minutes to 4 hours(2).

As a result, upon filing the Application for Certification, the applicant anticipated utilizing out of state law enforcement services located in Nevada to serve the needs of the proposed project site due to a reasonably reliable response time of approximately 25-30 minutes.

If Inyo County law enforcement were to be utilized for servicing the proposed project site, the Inyo County Sheriff has estimated the need for approximately $2.1 million dollars for initial construction and $1.2 million dollars for ongoing annual expenses(3).

However, the CEC Staff has estimated most of the security issues related to law enforcement needs for the operational portion of the proposed project can be provided by the applicant through the utilization of site-specific private security contracts and technology such as perimeter cameras. While the CEC Staff's assessment can be considered highly attractive to the applicant, it does little to ensure local law enforcement is capable of serving the public interest, local residents or Inyo County should the proposed project be approved.

If Nevada law enforcement services are utilized instead, it will continue the trend of California infrastructure requirements being displaced to out of state services and agencies.

As a result, the infrastructure requirements for functional law enforcement services necessary to protect and insure the public interest and safety in and around the proposed Hidden Hills Solar Electric Generating System site cannot be considered reasonably available.

(1) 2012-02-22 Letter Re: Socio Economic Impacts To Inyo County, TN-63719, pg. 3.
(2) 2012-02-22 Letter Re: Socio Economic Impacts To Inyo County, TN-63719, pg. 11.
(3) 2012-02-22 Letter Re: Socio Economic Impacts To Inyo County, TN-63719, pg. 3.

FIRE & EMERGENCY SERVICES

Due to the remote nature of the proposed project site, full-scale fire and emergency services are not readily available. While there is a small group of volunteers located in the community of Charleston View, the main source of fire and emergency medical services is located in Tecopa, CA. As a result, estimated emergency fire and medical response times to the proposed project site from Southern Inyo Fire Protection District is currently 30-40 minutes(1).

However, originally the applicant anticipated utilizing out of state fire and emergency services located in Nevada, despite similar response times from the Pahrump Valley Fire and Rescue Service being approximately 30 minutes(2).

The applicant's intent to utilize Nevada for fire and emergency services has initiated jurisdictional disputes. It may also increase property taxes to landowners in the vicinity through provisions contained within the California Constitution, Section XIII A, sections 13910 through 13916.

As a result, the infrastructure requirements for functional fire and emergency medical services necessary to protect and insure the public interest and safety in and around the proposed Hidden Hills Solar Electric Generating System site cannot be considered reasonably available.

LABOR

While estimated total construction payroll totals $66.2 million, 95% of it will evade labor forces residing in California as the proposed project only anticipates a direct employment effect of 32 temporary construction jobs and 6 full time jobs will go to California residents(3).

The applicant anticipates the majority (95%) of the construction and operational workforce will be based in Nevada. Though labor is reasonably available for out-of-state workers via proxy permits(4), labor associated with the proposed project is not reasonably available from the actual labor pool found within the proposed project's vicinity, the state of California itself nor does the applicant anticipate the use of California's workforce in any significant manner.

While currently proposed mitigation measures will insure that the state of California will receive fee's for union proxy permits issued to Nevada workers, California residents who have experienced an average jobless rate of 11.7% and a 13.7% poverty level in 2011(5) will find actual employment opportunities insignificant as a result of the proposed project.

As a result , the infrastructure requirements for a California based labor force necessary for the construction and operations of the Hidden Hills Solar Electric Generating System cannot be considered reasonably available and will require out of state intervention.

(1) 2012-02-15, Record of Conversation, Steve Kerr and Larry Levy Acting Chief, SIFC, TN-63659, pg. 2
(2) 2012-02-15, Record of Conversation, Steve Kerr and Larry Levy Acting Chief, SIFC, TN-63659, pg. 3
(3) CEC Staff's Fiscal Impacts Study, TN-65530, Table 3-1. HHSEGS Economic Parameters and Costs, pg. 11.
(4) 2012-02-15, Record of Conversation Re: Labor, TN-63459, pg. 1.
(5) CEC Staff's Fiscal Impacts Study, TN-65530, Table 3-1. HHSEGS Economic Parameters and Costs, pg. 9.

AIR QUALITY

"Now that I have your attention
I got somethin' I wanna say
You may not want to hear it
I'm gonna tell it to you anyway"

3. AIR QUALITY

This is the second comment submission regarding the Application for Certification for the proposed Hidden Hills Solar Electric Generating System (11-AFC-02). This submission should be considered supplemental too, but not a replacement of, the first submission. All page numbers cited are from the pdf. format and do not represent the actual page numbers specific to the documents.

1. TEMPORARY CONSTRUCTION/COMMON AREA EMISSIONS

In the AFC files of the Construction Emissions Analysis, Appendix 5.1F (and subsequent revisions), the applicant provides "headings" for heavy equipment associated with different types of construction operations to complete the project.

Questions

1. Under which "heading" in Appendix 5.1F, has the applicant included the emissions impacts from construction and development of the *temporary construction site* and *common area*?

2. CONSTRUCTION EQUIPMENT EMISSIONS FACTORS: DEFINING MILES PER HOUR

In the original AFC files as well as the revised "Boiler Optimization Plan"(1), Construction Equipment Emission Factors, the applicant includes a column titled, "Tier (Nonroad), Avg. mph (Onroad)". The average number used in this column is predominately "3".

Questions

1. In the Construction Equipment Emission Factors, what is the column title, "Tier (Nonroad), Avg. mph (Onroad)", referring too – average miles per hour the vehicle is estimated to travel or average speed of the vehicle?

2. If the Construction Equipment Emission Factors in the column titled, "Tier (Nonroad), Avg. mph (Onroad)", is referring to emissions resulting from the speed of the vehicle, how accurate are these emissions when the conditions of the permit authorize speeds up to 10-25 mph, depending on surface type?

3. If the emissions were calculated for non-road vehicles using a 10 mph vehicle speed, what is the difference (if any) in emissions impacts?

3. SF6 MAINTENANCE, REPLACEMENT AND WITHDRAWAL REQUIREMENTS

Background

According to the paper, "*SF6 From Electrical Equipment And Other Uses*"(1), leakage and *maintenance rates* for circuit breakers are significantly higher than the applicant's current projections for the proposed project. Here it states,

> *"As for the leakage/maintenance rates the following set appeared to be consistent with both stock assumptions in 1995 and required emission trends: 20% for equipment in the USA (consisting mostly of circuit breakers, dead tank type)…."*

Questions

1. What are the annual anticipated *maintenance, replacement and withdrawal requirements of SF_6* at the proposed project site as well as over the life of the project?

2. Where has the applicant disclosed this information in the AFC files or subsequent documents and where has CEC Staff accounted for them in the PSA?

4. SWITCHYARD CONTRADICTIONS/CHANGES IN SF_6 STORAGE QUANITIES

There are two distinct but interwoven issues that the applicant's Boiler Optimization Plan has raised. The first is the presentation of contradictory data regarding the location of the switchyard in the revised plans. The second is the SF_6 onsite storage and emissions impacts that may result from these changes.

Switchyard Contradictions

One of the key components of the Boiler Optimization Plan is the applicant proposing the switchyard be moved offsite and relocated to the Nevada side of the border. Beginning with the opening Section "Relocation of Switchyard and Gas Metering Station"(2), the applicant states:

> *"Since the switchyard and metering station will be moved immediately across the border, any potential impacts of those facilities will be analyzed along with the other project components located in Nevada – in compliance with the National Environmental Policy Act (NEPA)."*(3)

The applicant also removed the Switchyard from further analysis by describing it as "*moved offsite*" in Table 5.13-4R1 (Revised), Approximate Dimensions and Colors, Materials, and Finishes of the Major Project Features.

(1) "*SF6 From Electrical Equipment And Other Uses*", J.G.J. Olivier *et.al.,* Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories: Industrial Process Center (2002), pp. 227-241, p. 233 (pdf.pg. 7)
(2) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 7.
(3) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 8

The applicant also states that,

> *"The major components of each solar plant's power block, as revised, are described in Table 2.3-2R1.*(1)

Yet Table 2.3-2R1: Power Block Major Equipment and Facility List, continues to include "*Switchyard*" under the revised major components of the solar plants.

Additionally, during the June 4, 2012, Status Conference, the applicant stated that they could move the switchyard back to the original design if the CEC wanted them to, that they only had made this change to accommodate BLM's concerns regarding the transmission and natural gas lines impacting mesquite thickets in the project vicinity.

Finally, in the CEC Preliminary Staff Assessment, Staff describes the switchyard as being on-site while simultaneously providing maps(2) illustrating the switchyard is offsite.

> *"For each plant, the gen-tie line would begin at the power block as an underground line and extend through the heliostat field to emerge at a transition point into an overhead configuration. It is from this transition point that the line would extend into the on-site switchyard."*(3) [Emphasis added.]

As a result of all of the above, it is currently unclear what proposal we are looking at or analyzing impacts of.

Changes in SF_6 Storage Quantities

With respect to the proposed project's design and emissions revisions, it appears the applicant has increased the maximum projected onsite SF_6 storage from the original 884 lbs(4) to 1,300 lbs(5), over a 400 lb. increase. Yet, most of the onsite SF_6 quantities held in the circuit breakers *are located in the switchyard*, as the applicant describes below in the Boiler Optimization Plan.

> *"The estimated emissions include sulfur hexafluoride leakage emissions from four circuit breakers at the switchyard and one generator circuit breaker at each power block*."(6)

Additionally, while the applicant presents contradictory information regarding whether the switchyard is onsite or offsite while including changes in SF_6 storage quantities held onsite in the hazardous materials section, I could find no reference to changes regarding *the number of circuit breakers* between the original AFC data and the revised Boiler Optimization Plan.

(1) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 7.
(2) CEC Preliminary Staff Assessment, Soils and Surface Waters, Figure 6, pg. 614
(3) CEC Preliminary Staff Assessment, Transmission Line Safety and Nuisance, pg. 1,166
(4) Notice of Preliminary Determination of Compliance, Appendix A, Response to Question 2.4, pdf. pp. 34.
(5) CEC Preliminary Staff Assessment, Hazardous Materials, HHSEGS Chemical Inventory, Table 5.5-3R1, pdf. pp. 435
(6) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 108

Questions

1. Is the new location of the switchyard on public or private land?

2. If the switchyard is moved outside of the CEC's jurisdiction, does this effectively eliminate the CEC's ability to evaluate and incorporate this portion of the proposed project in their direct, indirect and cumulative emissions and impact analysis?

3. If the switchyard is moved out of state, will the CPM or any other California based entity or agency have any jurisdiction over its compliance to LORS over the life of the project?

4. Given the amount of contradictory information presented, can anyone explain what proposal we are suppose to be analyzing and commenting on?

5. Why has the amount of onsite SF_6 increased if no changes in circuit breaker requirements have been introduced?

6. What is the reason(s) for this increase in onsite storage of SF_6, especially in light of the fact that the switchyard is supposedly no longer included in the California portion of the proposed project's design?

7. What is the specific emissions factor increase relative to this 400 lb increase in SF_6 onsite storage quantities, including annual GHG impacts in terms of *pounds/tons*?

5. CONCRETE BATCH, EMISSIONS CALCULATIONS AND HOURS OF OPERATION

The Concrete Batch Plant is estimated to operate 21 hours per day(1) but the associated concrete batch heavy equipment of the loader and the transmix trucks were only projected to operate for 8 hours and 5 hours per day, respectively(2). This applicant only estimated operating emissions for this equipment for 16 days per month(3).

Regarding questions posed to the applicant with respect to the minimal emissions reporting approach that pervades the AFC emissions data, in a CEC sponsored workshop held on June 27, 2012, both applicant and CEC Staff responded that emissions were *not factored by "days" but by hours* and that it "just worked out" to equating to 16 days per month based on the hourly calculations.

Yet, the applicant has freely admitted that concrete pouring, operational hours of the Cement Batch Plant, heliostat assembly and installation and all construction activities will occur around the clock, which include double shifts, for possibly up to a year.

(1) 2012-04-09, Supplemental Data Response, Set 2, TN-64558, Attachment 5.1F-1, Construction Equipment Emission Factors pdf. pp. 251
(2) AFC files, Appendix 5.1F, Construction and Emissions Analysis, Construction Equipment Schedule, pdf. pp. 20.
(3) AFC files, Appendix 5.1F, Construction and Emissions Analysis, Construction Equipment Schedule, pdf. pp. 39.

"*Double-shift work schedules will be used during solar field assembly and installation activities and construction activities will continue around the clock when concrete is poured for the solar towers.*"(1)

"*A concrete batch plant will also be operated for about 12 months of the 29-month construction period.*"(2)

CEC Staff knows it too as described in one of their own mitigation measures, which allows for extensions of restricted operating hours during concrete pouring activities that may include increases to both hours and days.

"NOISE-6: Heavy equipment operation and noisy construction work relating to any project features, including pile driving, shall be restricted to the times delineated below: Mondays through Saturdays: 7:00 a.m. to 7:00 p.m. Concrete pouring during hot summer days may be performed outside the above hours, with the CPM approval."(3)

Obviously from the descriptions provided by both applicant and Staff, it is not reasonably foreseeable that hourly emissions during these times (such as concrete pouring) will only equate to 16 days per month – especially when the applicant has described the Concrete Batch Production "emissions days" as being comprised of 21 hours per day.

High intensity construction activities such as those described above may result in triggering significant emissions thresholds capable of impacting public health for those that reside in the localized zone of impact.

The concrete batch production produces very high levels of PM_{10} and $PM_{2.5}$ criteria pollutants during operations, weighing in at 81.4 lbs per day(4) during the peak of production. The cumulative total daily total of PM_{10} emissions alone are projected to reach 246 lbs per day, just 4 lbs away from trigging a significant threshold level.

Additionally, instead of the applicant applying the 81.4 lbs of PM_{10}/$PM_{2.5}$ projected emissions from the Batch Plant operations during their "peak" estimates for Month 8/9 (also known as September and October), the applicant reported merely 14.16 lbs per day for a total 226.57 lbs per month during these same months. (Also calculated as 16 days per each month of emissions).

However, the true "peak" of batch plant emissions actually occurs in Month 13, 14, and 15(1) (also known as March, April and May of 2014) and applies the 70.80 lbs per day with a 1,132.86 lbs monthly total (for another 16 day month) during this period for PM_{10} emissions. This also leaves us to only speculate when the "peak" period actually occurs or will it apply from September through May.

(1) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 111
(2) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 112
(3) CEC Preliminary Staff Assessment, Noise, Construction Restrictions, Noise-6, pg. 491
(4) 2012-04-09, Supplemental Data Response, Set 2, TN-64558, Table 5.1F-1, pg. 225

If the applicant runs the Concrete Batch Plant "around the clock", even under the six day work scenario outlined by the CEC Staff proposed mitigation measure Noise-6, this equates to 1,840.8 lbs of PM_{10} pollutants for March and April 2014 (26 days each) and 1,911 lbs. for May 2014 (27 days). The result is a minimum of over 700 lbs per month of a criteria pollutant (or 23.3 lbs per day based on a 30-day month), which just "disappears" from the emissions analysis.

If the emissions were reported to actually correspond to the applicant's proposed 7-day a week round the clock work schedule, monthly PM_{10} /$PM_{2.5}$ emissions could run as high as 2,195 lbs per month – just from the Concrete Batch Plant emissions alone.

Why is Staff – or the laws – allowing this constant shaving, misrepresenting and underreporting of emissions?

Questions

1. If the Concrete Batch Plant is estimated to operate for 21 hours per day, why is its associated equipment only projected to operate for 8 and 5 hours a day? Please explain timetables and operating procedures and explain why the CEC Staff found them acceptable for emissions calculations.

2. What are the actual "peak" months the Concrete Batch is projected to operate; September/October of 2013, March, April and May of 2014 or September 2013 through May 2014?

3. Based on the answer to question 2, what are the true cumulative emissions totals that will occur during those months of "peak" Concrete Batch operations?

4. How does Staff justify the use of 16 days emissions impacts during Concrete Batch Operations under the "hourly" emissions calculations when they know the Plant is already projected to operate for 21 hours per day and will operate "around the clock" for at least three months?

6. MAXIMUM BOILER EMISSIONS: CONFLICTING DATA

Background

According to the Application To Construct (ATC) - Permit To Operate (PTO) sent by Bright Source to the Great Basin Unified Air Pollution Control District (GBUPACD) regarding the HHSEGS, the plant will operate 24 hours a day, 7 days a week for 52 weeks per year(2).

Under the Fuel Data section, the applicant states the maximum amount of fuel burned per hour is 0.24 MMscf/hour and 295 MMscf/year for the large auxiliary boilers and 0.015 MMscf/hour and 71 MMscf/year for the small nighttime boilers for each boiler(3).

(1) AFC files, Appendix 5.1F, Construction and Emissions Analysis, Construction Equipment Schedule, pp. 39.
(2) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 42
(3) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 43

This equates to a maximum burn rate of 1,229 annual hours for the large boilers and 4,733 annual hours for the small boilers.

In the Boiler Optimization Plan, the applicant provides a summary of annual boiler emissions via maximum hourly full load hours that approximately match the fuel data conclusions presented in the ATC-PTO submitted to the GBUAPCD.

> *"Maximum annual auxiliary boiler use will be the equivalent of 1,208 full-load hours per year per boiler; maximum annual nighttime boiler operation will be the equivalent of 5,003 fullload hours per year per boiler. The annual operating schedule is summarized in Table 5.1B-8R, Appendix 5.1B.* (1)

The applicant then provides discussions regarding how emissions rates were calculated, projected hourly use, describes difference in emissions efficiency between operating modes of the boilers as well as emission variations between full loads and other loads. With respect to emission differences between full load and other types of loads, the applicant concludes for both boiler types that no matter what the type of operation, emission rates "*are not expected to be higher than the pound per hour emission rates for normal operations."*(2)

Because of wide variations in operating modes, the applicant never actually describes projected emissions for each type of operating mode but gives no indication that these modes will result in *significantly less emissions* than normal operating conditions.

However, in Table 5.1B-8R as referenced above, the applicant describes the auxiliary boiler annual operating hours as 1,100 full load hours and 865 start up hours(3) equating to 757 more hours than was described by the applicant's own annual full load descriptions (1,208 hours) and 736 more hours than what was submitted in the ATC-PTO to the GBUAPCD (1,229 hours). Based on the information currently available, it appears that emissions from start up procedures on the auxiliary boilers are approximately 8 times lower than emissions resulting from full load hours.

With respect to the nighttime boilers, Table 5.1B-8R reports 4,780 full load hours and 345 start up hours, which is closely equivalent to the applicant's own description of applying 5,003 full load hours to the nighttime boilers but falls short of what was submitted in the ATC-PTO to the GBUAPCD.

Questions

1. What are the reasons for these annual operating hour discrepancies?

2. What differences do these variations in annual operating hours for boilers make to operating emissions impacts and emission limits in the Permit To Operate?

(1) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 101
(2) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 105
(3) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 161

7. ANNUAL POWER PRODUCTION

Background

In the Boiler Optimization Plan, the applicant explains why the proposed project will be exempt from limitations established in SB 1368.

> *"However, as a solar power plant, the project is not designed or intended for base load generation. The EPS applies only to procurements that entail an annualized capacity factor in excess of 60 percent. With an expected operating capacity that is the equivalent of approximately 3,000 full-load hours per year, the project's annualized capacity factor will be less than 50 percent. Therefore, the SB 1368 limitation does not apply to this fa*cility."(1) [Emphasis added[

My current understanding of the proposed project's general operations with respect to power generation includes variations of production levels with a period of heightened activity in the "peak" production months of June, July and August. Production may also be affected by climactic factors such as excessive wind speeds that cause the heliostat's to rotate into "safe positions" and cloudy days.

However, the applicant provides no distinction in operating hours between production levels that "peak" in the summer versus the rest of the year. As a result, I have concerns that production levels in the summer months (when demand is highest) will be carrying the bulk of the proposed project's power generation. This may result in air emissions that exceed hourly and daily limits during this period that are hidden due to the applicant's use of annual "averages".

Consequently, true impacts to air quality and potential threats to public health may be avoiding analysis and permitting requirements.

Questions

1. Does the applicant's annualized capacity factor of approximately 3,000 full-load hours per year indicate this is the projected annual ***average*** of hours the plant will produce power over the course of that year?

2. What is the daily power production potential in terms of hours during the peak summer months of June, July and August, when solarity is the highest due to long summer days?

3. Due to potential increased production levels during summer months by possibly a large margin, can the proposed project's emissions qualify as a "seasonal" production facility subject to air pollution reporting requirements for seasonal generation? If not, why not?

(1) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pdf. pp. 133

8. HELIOSTAT COMMUNICATIONS SYSTEM:
TRENCHING/IMPACTS TO AIR QUALITY & EMISSIONS
Background
The applicant has yet to commit to a communication system to control the heliostats. One potential system would be wireless and one would require direct wiring, which in turn would require trenching a significant portion of the site for installation.

Questions

1. If the applicant chooses to directly wire the heliostats, how many feet/yards/miles of trenching will be required and what does this translate to in terms of acreage disturbance at the project site?

2. If the applicant chooses to directly wire the heliostats, what is the projected increase in heavy equipment required to install it, the projected cumulative increase in construction emissions from equipment and potential traffic impacts and was this accounted for in the AFC files or the PSA? If so, where?

3. What are the estimated number of additional workers trenching would require during the construction phase, what hours of the day would they trench, what months would this affect during the construction portion of the project, how many feet/yards/miles is projected to be completed each day and was this accounted for in the AFC files or PSA? If so, where?

9. CONFLICTING DATA ON MAINTENANCE ROAD DESIGNS:
IMPACTS TO AIR QUALITY/EMISSIONS
Background
The Preliminary Staff Assessment is currently presenting conflicting data regarding the proposed projects design for the maintenance roads surrounding the power towers. Resulting impacts from this design discrepancy may be significant and may result in changes to anticipated direct, indirect and cumulative impacts to air quality during operations and over the life of the project. Based on my own review of the AFC files, the original design element was to contain 20-ft drive zones, not the 10-ft. maintenance paths used in the surface hydrology analysis quoted below.

<u>Preliminary Staff Assessment, Soils and Surface Water, pg. 571:</u>

- *"10-ft wide dirt heliostat maintenance paths located concentrically around the power plants, placed approximately 152 feet apart."*

<u>Preliminary Staff Assessment, Traffic and Transportation, pg. 622</u>
"Within the heliostat fields, 20-foot wide "drive zones" would be located concentrically around the power block to provide access to the heliostat mirrors for maintenance and cleaning. The drive zones would be located approximately 152 feet apart and would be grubbed to remove vegetation and smoothed."

Questions

1. How many roads circle the power towers for each plant under *each* design element (20-ft versus 10 ft)?

2. What is the projected total surface in acreage values for *each* of these maintenance road design elements and what is the difference in values between them? Example, 20-ft roads result in 500 acres of disturbance, 10-ft roads result in 1,000 acres of disturbance.

3. How many miles of roads for *each kind of road* (paved, fully graded, partially graded) is the completed proposed project projected to have?

4. What is the total number of square feet for each kind of road (paved, fully graded, partially graded) that will be incorporated into the proposed project sites operational design?

5. What are the differences (if any) in emissions impacts via fugitive and windblown dust ($PM_{10}/PM_{2.5}$ particles) between these two variations of designs for the drive zones/maintenance paths surrounding the power towers? If so, were they accounted for in the AFC operational emissions data? If so, where?

6. What is the projected $PM_{10}/PM_{2/5}$ fugitive and windblown dust for hourly, daily and annual emissions during *the operational portion* of the proposed project as a result of the drive zones/maintenance paths *without* mitigation measures and *with* mitigation measures?

7. What are the maximum hourly, daily and annual *emissions limits* for fugitive and windblown dust *during the operational portion* of the proposed project?

10. MIRROR WASHING MACHINES AND MAINTENANCE SCHEDULE: NOT FEASIBLE

Background

The mirrors/heliostats are advertised as the central component of the project design that qualifies it as a renewable energy generation source. Therefore, their performance is critical in generating electrical output. However, there are some serious questions and discrepancies regarding the applicant's equation for the projected mirror washing rotation schedule and the number of Mirror Washing Machines (MWM) necessary to achieve that schedule in order to maintain performance levels.

The following elements are what are currently known regarding the design and operations of the MWMs with respect to maintenance cleaning activities (not including scrubbing).

Each solar plant will be divided into two zones for maintenance and cleaning purposes; the Near Tower Zone (NT) and the Far From Tower Zone (FFT). Each zone will require two different types of MWM's due to the design layout and mirror density as described by the applicant below.

> *"Each solar field is divided into two zones for the purpose of heliostat cleaning, depending upon the locations and density of heliostat placement. These zones determine what type of mirror washing machine can be used for the heliostats in the zone. The Near Tower (NT) Zone consists of the area closest to the tower. The layout in this zone allows a vehicle to drive between the heliostats so that each heliostat can be accessed directly. The NT mirror washing machines are small and maneuverable. Each solar plant will require one NT mirror washing machine."* (1)

With respect to the FFT Zone, in the original AFC files, the applicant describes the number of MWM's required for mirror cleaning activities in the areas outside the NT's Zones per solar plant.

> *"Each solar plant will require a total of 17 tractor-pulled trailers for cleaning heliostats outside the NTZ."* (2)

In the applicant's Boiler Optimization Plan, the applicant reduces the number of mirror washing machines to only 7 machines per plant.

> *"Each solar plant will require a total of 7 machines for cleaning heliostats in the FFT zone."*(3)

In the California Energy Commission Proposed Decision for Bright Source's Ivanpah Solar Plant(4), as well as in the Boiler Optimization Plan for the Hidden Hills SEGS, the applicant states the projected mirror washing frequency is a "*2-week rotating cycle*"(5).

At this time, the applicant has not included data regarding the required time to clean each mirror/heliostat pair at the Hidden Hills SEGS but a general idea can be obtained from the mirror washing time requirements outlined in the Stirling Energy Systems Solar Two Project CEC Staff Assessment(6), which stated:

> "*Mirror washing would be required approximately once every month, requiring 14 gallons of water per dish with an average washing rate of 20 minutes per washed dish pair, or 10 minutes per dish, since each wash vehicle is able to wash two SunCatchers simultaneously....".*

(1) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 106.
(2) AFC Files, Section 5.1, Air Quality, pg. 42
(3) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 106.
(4) http://www.circleofblue.org/waternews/wp-content/uploads/2010/09/California-Energy-Commission-Proposed-Ivanpah-Project-DecisionCEC-800-2010-004-PMPD.pdf, pg. 18
(5) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 106
(6) http://www.energy.ca.gov/sitingcases/solartwo/documents/staff_assessment/2_CEC-700-2010-002-SA-DEIS_SectionC-D.pdf

What is also not known is, out of the 85,000 mirrors per solar plant, how many of these mirrors will be contained in the Near Tower Zones versus the Far From Tower Zones. However, based on these statements of facts, the following can be reasonably concluded:

Near Tower Zone Maintenance and Performance Schedule

If each solar plant has 1 NT Zone MWM and it takes ten minutes to clean each mirror, then approximately 6 mirrors can be cleaned p/hour. Over the course of a 10-hour shift, a maximum of 60 mirrors p/day will be cleaned. 60 mirrors p/day multiplied by fourteen days equals 840 mirrors will be cleaned in the NT Zone per solar plant to meet the applicant's 2-week rotating cycle.

Far From Tower Zone Maintenance and Performance Schedule

First, the number of mirrors in the NT Zones must be subtracted from the 85,000 mirrors p/solar plant. This leaves approximately 84,160 mirrors per plant that will need to be cleaned in the FFT Zone by the remaining 7 MWM's.

84,160 mirrors p/solar plant divided by 7 MWM = 12,022 mirrors p/MWM
12,023 mirrors divided by 14 days = 859 mirrors cleaned p/day
859 mirrors p/10-hour shift = 86 mirrors p/hour

Given the obvious, either the applicant is not going to be able to clean the mirrors every two weeks as projected or the applicant will need to employ many more MWM than is currently accounted for in the emissions estimates.

Questions

1. Approximately, how many mirrors are projected to be included in *each* zone - Near Tower Zones and the Far From Tower Zones?

2. How long will it take to clean each mirror *per zone*?

3. Based on only employing 1 MWM in the NT Zone, what is the projected length of time it would take to complete one rotating cycle of general maintenance (cleaning, not scrubbing) per solar plant?

4. Based on only employing 7 MWM's in the FFT Zone, what is the projected length of time it would take to complete one rotating cycle of general maintenance (cleaning, not scrubbing) per solar plant?

5. How many additional MWM's would be necessary to keep the applicant's stated 2-week rotating cycle cleaning schedule for each zone and what would be the hourly, daily and annual emissions increases to accommodate these additional MWM's per zone?

6. Will additional MWM's or vehicles be required to complete the projected additional maintenance of mirror "scrubbing"? If not, what changes will be made to the time it takes to complete the regularly rotating schedule per zone? If so, how many additional MWMs or vehicles will be required *per zone* and what are their additional operational emissions impacts?

11. OPERATIONAL DUST CONTROL PLAN: INADEQUATE IMPACT ANALYSIS

Background

The proposed project currently illustrates a total of 73 partially graded 10 ft. wide dirt roads (40 around Solar Plant I and 33 around Solar Plant II) circling each power tower and an undisclosed length of fully graded 12 ft. and 20 ft. wide dirt roads around a portion of the project site's perimeter and within the site(1). The total number of partially graded roads and fully graded roads remain undisclosed and the applicant's conclusion of projected acreage disturbance of these roads cannot be verified as no supporting data was included in the AFC files.

According to CEC Staff proposed mitigation measure AQ-SC7(2), a site operations dust control plan, including all applicable fugitive dust control measures, will be required of applicant prior to commencing operations – *but not prior to the close of the CEQA equivalency process.*

These roads, which are critical to the operation of the proposed project, will result in a substantial amount of soil disturbance and potential fugitive and windblown dust resulting from the proposed projects daily operations and will continue over the life of the project.

Under CEQA, before a level of significance can be determined regarding potential impacts, disclosure of reasonably foreseeable elements of the project and its potential direct, indirect and cumulative impacts are required.

To illustrate the importance of disclosing and evaluating the impacts of how these maintenance roads will affect plant operations and the environment, here are some reasonably foreseeable methods the applicant will be required to choose from in order to develop an even marginally effective fugitive dust control plan capable of reducing impacts to air quality over the life of the project.

> **Scenario 1:** If the applicant chooses to gravel the fully graded and partially graded dirt roads, gravel will have to be hauled in to the project site. However, all the delivery trucks required to haul the gravel are currently not included or analyzed under the construction portion of the proposed projects impacts. These impacts include, but are not limited to; emissions, traffic impacts, additional heavy equipment and heavy equipment operations, additional workers, increased project costs and fiscal impacts as well as more fugitive dust resulting from dumping the gravel.

(1) CEC Preliminary Staff Assessment, Soil and Surface Hydrology, Figure 5: Soils and Surface Hydrology, pdf. pg. 613.
(2) CEC Preliminary Staff Assessment, Air Quality, pdf. pg. 93.

Questions

1. How much medium sized gravel would be required for complete coverage of all fully and partially graded dirt roads required for project operations at a depth of 3" thick?

2. How many delivery trucks would be required to deliver the proposed gravel in Question 1?

3. What would be the additional construction emissions factors for delivery trucks that hauled the proposed gravel in Question 1 to the site?

4. If medium sized gravel was applied to all fully and partially graded roads required for the proposed projects operations at a depth of 3" thick, would chemical dust suppressants/soil binders also be required to reduce fugitive and windblown dust?

5. If medium sized gravel at a 3" depth was applied to all fully and partially graded roads required for the proposed projects operations at a depth of 3" thick, to what degree would this offset vehicular emissions resulting from chemical dust suppressants/soil binders applications over the life of the project?

Scenario 2 : If the applicant chooses to apply chemical dust suppressants or chemical soil binders throughout the life of the project, another set of impacts will result. First, all chemical dust suppressants and soil binders are not created equal. Setting aside the fact that most of the safety data for these products has been developed by the manufacturer without independent review, only certain types are capable of withstanding even marginal use before they fail and must be re-applied. What type of product is used will determine what the applicant must do to insure adequate coverage and maintain dust suppression over the life of the project.

Questions

1. What product will be used?

2. How often must it be reapplied: once a month, once a year?

3. What methods will the applicant apply these chemicals with: by hand or by vehicle?

4. If vehicles are used, (which given the amount of coverage it appears will be needed, this is the most reasonably foreseeable choice), what kind of vehicles will they be?

5. What are their daily, monthly and annual emissions during the operational portion of the project?

6. What limitations will apply and/or mitigation measures will reduce the introduction of these additional vehicle emissions impacts over the life of the project?

7. Will the application and dispersal of these chemical dust suppressants/soil binders be prohibited during days where there is wind to prevent accidental application on native vegetation and inappropriate air dispersal? If not, what will be the wind speed limitation: 5 mph, 10 mph, etc.?

8. How long will it take the applicant to reapply these substances (daily, weekly, monthly, annually?)

Scenario 2-A: CARB PreCertified Chemical Dust Suppressants/Soil Binders

The following two chemical products, Soil-Sement™ and PennzSuppressD™ have been precertified by the CARB for effective dust suppression and soil binders. Product information and application requirements may be accessed on the CARB website at: http://www.arb.ca.gov/eqpr/mainlist.htm

According to the product descriptions, neither product is recommended on uneven road surfaces such as those that might be incorporated in the applicant's Low Impact Design, which intends to preserve washes and natural drainage systems. Applications were tested as being effective up to approximately 7,000 vehicle trips of predominately light duty vehicles only. No claims were made regarding effectiveness for heavy-duty construction equipment.

Both products contained the following application requirements:

Evaluate the unpaved road closely to determine the condition of the road and to determine the appropriate application. Specific consideration should be given to:

- Road imperfections such as potholes, wash-boarding, aggregate loss, rutting, etc.;
- Type of material from which the road has been constructed, including the aggregate and particle size distribution (i.e. clay content, largest aggregate size, etc.);
- Slope and drainage of the road;
- Number of vehicle passes per day;
- Type of vehicles using the road; and
- Local climate, including annual rainfall amounts, relative atmospheric humidity, temperature extremes, and seasonal climatological fluctuations.

Repair the road as necessary by:

- Correcting road imperfections such as potholes, wash-boarding, rutting, and a lack of road base aggregate material; and
- Correcting improper drainage by constructing a crown/slope on the road, cutting ditches along the length of the road and/or constructing drainage beneath the road surface.

PennzSuppress® D had required precautions and is not recommended for:

- PennzSuppress® D should not be introduced into storm drains or drainage ditches.
- Temporary berms should be used to prevent product from entering storm drains.
- PennzSuppress® D should not be applied during or immediately prior to a rain event.
- PennzSuppress® D should not be applied directly to a stream bank.
- PennzSuppress® D should not be applied within 100 feet of a sinkhole or any direct conduit to ground water.
- PennzSuppress® D should not be applied in a manner that may cause the reporting of an unauthorized discharge to be made to an environmental authority.

Soil-Sement® precertification only evaluated the effectiveness of Soil-Sement® in suppressing fugitive dust emissions from unpaved road consisting of a silty, sandy loam. Soil-Sement® was not recommended on aggregates that have low abrasion resistance (i.e., those that will crush and form new dust under the weight of vehicles.)

Questions 2-A

1. Based on the application requirements, precautions and effectiveness for two CARB precertified chemicals listed above, what are the site-specific limitations, requirements, direct, indirect and cumulative impacts to the proposed project site and surrounding environment *for each of these products individually* during both the construction and operational phase as well as over the life of the project?

2. How does the grading and surface requirements for effective application of these two CARB precertified products affect the applicant's intent to implement a Low Impact Design to preserve natural washes and drainages throughout the proposed project site?

3. What is the estimated number of acres any of these products will be applied to during the construction and operational phase of the proposed project?

4. What are the estimated daily, monthly and annual vehicle passes per kind of road (fully graded and partially graded) that will be required for both the construction and operational phase of the proposed project?

5. How much in terms of acres (if any) of the proposed project site could be classified as "not suitable" for application of either of the two CARB precertified dust suppressants/soil binders?

6. What are the public health implications (if any) if any of these considerations increase fugitive and windblown dust (PM_{10}/$PM_{2.5}$ particles) due to lack of site suitability (soils, road surface, aggregate, natural drainage) in terms of applying either of these two CARB precertified products?

7. What evidence is available that supports the effectiveness and dust control rates of these two CARB precertified dust suppressants/soil binders with respect to heavy-duty equipment such as will be used during both the construction and operational phase at the proposed project site?

8. Do any of these considerations trigger significant impact thresholds to air quality? If so, what is the level (in terms of percentage) of the significance and by what degree do the proposed mitigation measures individually (by percentage) reduce those impacts?

9. Since PennzSuppress® D is not recommended for multiple areas related to water and water drainage, what are the projected direct, indirect and cumulative impacts to water, ground water, waters of the state and biological resources at and around the project site if this product is approved of in the dust control plans currently scheduled to be formulated after the CEQA equivalency process is closed?

Scenario 3: If the applicant chooses to use water trucks over the life of the project, this too results in additional impacts that have yet to be disclosed, accounted for or appropriately mitigated. Some of the most basic reasonably foreseeable impacts, including but not limited to, are; significant increases in required water use over the life of the project, disclosure of how much more water the applicant will need to determine project water limit compliance, additional emissions resulting from the permanent use of water trucks, increases in invasive and noxious weeds due to increased soil moisture content, possibly increasing attraction for local wildlife and/or increases in insect populations, and possibly increasing local air humidity.

Of additional concern is the applicant has already projected the use of 200,000 to 400,000 gallons of water previously used for pipe cleaning and is described as "chemical cleaning fluid waste" that will be discharged into the surrounding environment for dust control as illustrated below.

"Table 5.14-2 of the Application for Certification estimates that there will be 200,000 to 400,000 gallons of passivating and chemical cleaning fluid waste used for pipe cleaning and flushing. There is also a note in the AFC that the fluid will be sampled, and if the fluid is clean, the fluid will be discharged to the surrounding area for dust control."(1)

Based on the above, it appears the applicant will be counting on this "recycled" water for dust control whether the fluid samples indicate the water is clean enough for discharge or not.

(1) CEC Preliminary Staff Assessment, Waste Management, pg. 803.

Questions

1. If the applicant uses water trucks to control fugitive and windblown dust over the life of the project, what are the additional water annual water requirements and can they be met with the currently proposed water limitations?

2. If the applicant uses water trucks to control fugitive and windblown dust over the life of the project, what are the additional emissions impacts the water trucks will add to operations on a daily, monthly and annual basis?

3. Given the significant difference in emissions resulting from the applicant's change of use to on-road heavy duty engines for the Mirror Washing Machines versus the original AFC plans of using tractor trailers, will CEC Staff propose as a Condition of Certification that if water trucks are used over the life of the project as part of the dust control plant that they also be equipped with on-road heavy duty engines to reduce emissions impacts?

4. How can the 200,000 to 400,000 gallons of recycled water be counted on for dust control if its discharge depends on the fluid sample levels of contamination?

5. What happens to this recycled water if it fails to register as "clean"? How will it be disposed of?

6. Will the applicant just dilute the recycled water until it registers as "clean"? If so, how much additional water would this require?

7. If the fluid samples fail to register as "clean" and the applicant dilutes it with additional water until it can register as clean enough for discharge, isn't the same amount of "non-clean" chemicals being discharged into the environment? If so, what is the cumulative affect of this discharge to soil, water and biological resources over the life of the proposed project?

General Questions: Dust Control Plan for Operations

1. Are there alternative dust control methods for ***the operational portion*** of the proposed project that have not been included here? If so, what are they and what are their potential direct, indirect and cumulative impacts?

2. Why does Staff believe it is appropriate to exclude these issues, impacts and decisions relevant to the Dust Control Plan for both the construction and operational phase of the proposed project and should only be vetted after the CEC CEQA equivalency process has closed?

3. Of the three scenarios outlined above to be used for fugitive and windblown dust control during ***operations***, which of them would rank as the environmentally preferred alternative over the life of the project?

12. REQUIRED EARTHMOVEMENT: FINAL GEOTECHNICAL REPORT

Background

The issue of additional fugitive and windblown dust impacts, which may result from the determinations of the Final Geotechnical Report, has so far continued to evade disclosure or impact analysis by the applicant, CEC Staff and by the Great Basin Unified Air Pollution Control District (GBUAPCD).

While the applicant assumed PM_{10} fugitive dust emissions for merely 6.35 acres being "disturbed" out of the 3,227 acres at any one time, other projects analyzed under CEQA guidelines have not been so minimal in their analysis.

For example, according to CEQA guidelines used by the Monterey Bay Unified Air Pollution Control District (MBUAPCD) for "Construction Activity With Potentially Significant Impacts: Pollutant PM_{10}", the potential threshold for significant impacts(1) were defined as, "*Construction site with minimal earthmoving of 8.1 acres per day"* and*, "Construction site with earthmoving (grading, excavation) of 2.2 acres per day."* Here is how this guideline was defined under CEQA analysis and applied to that projects potential impacts.

> "*According to district guidelines, projects requiring minimal earthmoving on 8.1 or more acres per day or grading and excavation on 2.2 or more acres per day is likely to exceed this threshold; such projects must provide further analysis to refute (or validate) a determination of significance or must acknowledge a potentially significant air quality impact*."(2)

With respect to the proposed Hidden Hills Solar Electric Generating System, applicant, Staff and the GBUAPCD have failed to report – or even ask – for the applicant's projected amount of daily earthmovement and acreage disturbance during the construction portion of the project after incorporating the results of the Final Geotechnical Report.

Additionally, determining site-specific soil types and their relationship to PM_{10} fugitive and windblown dust emissions, including how those soil types are relevant to formulating appropriate mitigation measures, already have precedence within the Great Basin Unified Air Pollution Control District (GBUAPCD), which the proposed project is under the jurisdiction of (save for the sole jurisdiction of the CEC).

(1) CEQA Air Quality Guidelines, Initial Study/Determining Significance, 5.3 Criteria for Determining Construction Impacts, Table 5-2, pg. 38. based on Midwest Research Institute, Improvement of Specific Emission Factors (1995). Accessed online on June 24, 2102 at: http://www.co.monterey.ca.us/planning/major/Pebble%20Beach%20Company/Pebble_Beach_DEIR_Nov_2011/Pebble_Beach_DEIR_Admin_Records_Nov_2011/MBUAPCD/MBUAPCD_2008_CEQA_Air_Quality_Guidelines.pdf

(2) Scott Valley Town Center Specific Plan EIR, 4.2 Air Quality, 4.2.2. Impact Analysis, Construction Emissions, pg. 7. Accessed online on June 24, 2012 at: http://www.scottsvalley.org/downloads/town_center/4.2%20Air%20Quality.pdf

In efforts to reduce PM_{10} fugitive dust emissions and associated impacts from Owens Lake, the GBUAPCD's coordinated Air Quality Plans to modify BACM procedures were finalized in 2008(1). This plan uses soil types and weekly monitoring to determine PM_{10} evaluations and appropriate mitigation measures. It also issued PM_{10} project limits.

As previously stated in my last comment submission, the Preliminary Geotechnical Report contained recommendations made by the preparers regarding the critical need to stabilize some of the native soils, either through importing outside soils or mixing soils with stabilizers in order to ensure site suitability deemed critical to the safety, stability and engineer design of the proposed project. Despite this, no one has so far been willing to disclose the degree of changes, reasonably foreseeable impacts, potential significance and/or thresholds to air quality or other critical elements of the proposed project during the CEQA equivalency process.

Therefore, there continues to be no data to examine, analyze, refute or validate to determine the significance of the amount of site-specific earth movement, soil replacement or soil disturbance that will be required to implement the proposed design or to determine if the site can even reasonably considered suitable for construction, operation and certification.

As a result, any determinations of "reduced impacts, lessening of impacts, less-than-significant impacts" or mitigation measures that purport the same are invalid because the AFC data is incomplete, and therefore inadequate, by a potentially significant margin.

Questions

1. What are the reasons Staff failed to request a Final Geotechnical Report be performed and completed by the applicant during the discovery period for purposes of siting and CEQA analysis?

2. How has Staff determined the proposed project site is suitable to support the current design over the life of the project without significantly altering the native soils, landscape and environmental?

3. Why does Staff believe it is possible to adequately determine construction and operational impacts, levels of significance and appropriate mitigation measures for the proposed project absent the results of the Final Geotechnical Report with respect to air quality, additional construction emissions, and additional traffic impacts for trucks that will be required to haul in or haul out soil stabilizing agents?

(1) Board Order, Attachment D – 2008 Procedure for Modifying BACM for the OVPA.
http://www.gbuapcd.org/Air%20Quality%20Plans/2008SIPfinal/2008%20SIP%20-%20FINAL%20-%20Ch%208_Attachment%20D%20-%202008%20BACM%20Procedure.pdf

13. FINAL GEOTECHNICAL REPORT: COMPLIANCE WITH RULE 502. 3.16

Background

The Preliminary Geotechnical Analysis reported that some soils at the site were unsuitable for the projects purposes at some locations and would have to be either total removed or mixed with stabilizing soils. However, the preparers failed to provide an analysis that described to what degree these mitigation measures would need to be applied to insure site-suitability.

According to Rule 502. Conservation Management Practices, 3.16, fugitive dust includes emissions caused by movement of soil.

Rule 502. Conservation Management Practices

> 3.16 *Fugitive Dust: Any solid particulate matter entrained in the ambient air caused by anthropogenic or natural activities, that is emitted into the air without first passing through a stack or duct designed to control flow, including, but not limited to, emissions caused by movement of soil, vehicles, equipment, and windblown dust. This excludes particulate matter emitted directly in the exhaust of motor vehicles, from other fuel combustion devices, portable brazing, soldering, or welding equipment, and from pile drivers.* [emphasis added]

Questions

1. Since the determinations of the Final Geotechnical Report has yet to be revealed, how can the proposed project's approval comply with the necessity to regulate fugitive and windblown dust as defined by Rule 502.316 regarding earthmovement?

2. What is CEC Staff's definition of "*emissions caused by the movement of soil*" as defined in Rule 502.3.16 and how does it apply or not apply with respect to potential emissions resulting from the movement, replacement and/or stabilizing of soil as outlined in the applicant's Preliminary Geotechnical Report?

3. Wouldn't including the findings of the Final Geotechnical Report impact the emissions analysis of the projects emissions compliance as well as insuring appropriate dust mitigation measures that are tailored for the soil types of the area in the Conditions of the Permit versus the current generic "one-size-fits-all" approach that was deemed inadequate for the Owen's Valley mitigation measures?

4. Since the proposed project requires a variety of vehicles and roads in order to operate over its lifetime, why has issuing daily, monthly and annual limits on fugitive dust created by the daily operations of the solar plants so far evaded criteria pollutant emissions limits?

5. Will CEC Staff require $PM_{10}/PM_{2.5}$ limits for the operational phase of the proposed project just like other criteria air pollutants will be limited by Conditions of the Permit and the GBUAPCD's Permit to Operate?

14. DUST MITIGATION MEASURES: "NORMAL" VERSUS WORST-CASE SCENARIOS

Background

The CEC and the GBUAPCD's proposed dust mitigation measures are only intended to apply in "normal" weather conditions, not worst-case scenarios. The proposed project is in an area subject to high winds that have been reported at speeds up to 90 mph just north of the proposed project site in Pahrump.

Questions

1. What are the wind speeds CEC Staff defines as "normal" and what are the wind speeds that meet the criteria of "non-normal" that the proposed dust mitigation measures won't cover?

2. What mitigation measures, if any, does the CEC Staff propose for dust impacts in "worst-case scenarios" that result from construction and operational activities such as wind events resulting in wind speeds in excess of 25 mph?

3. What mitigation measures does the CEC Staff recommend to protect public health during the construction and operational phases of the proposed project to insure air quality standards don't exceed significant thresholds of $PM_{10}/PM_{2.5}$ fugitive and windblown dust emissions for wind speeds occurring in the project area outside the currently undefined definition of "normal"?

4. How will the CEC or the GBUAPCD monitor fugitive and windblown dust levels during the operational portion of the proposed project to detect levels and frequency of $PM_{10}/PM_{2.5}$ emissions exceeding significant thresholds and posing threats to public health?

15. VALLEY FEVER

Background

In the CEC Staff's Preliminary Staff Assessment published May 24, 2012, Staff proposes the mitigation measure for Valley Fever, a fungus that is known to occur in soils of the proposed project area's vicinity and causes public health problems. The proposed mitigation measure for residents and those who have the potential to be affected, besides workers and visitors to the area, is:

> "*Staying indoors during dust storms and closing all doors to avoid dust inhalation are measures recognized by the regulatory agencies as effective against Valley Fever in endemic areas where the risk of human exposure cannot be eliminated altogether*."

However, the requirements under Nuisance Regulation H&SC §41700 state:

> *"No person shall discharge from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property."*

Questions

1. Which regulatory agencies is CEC Staff referring to that recognize this is an appropriate mitigation measure the public can take to protect themselves from Valley Fever?

2. Where have these regulatory agencies posted this policy and does it supercede laws aimed at protecting public health from known infections such as those produced by the fungus responsible for inducing Valley Fever?

3. How will tourists passing through and those visiting the area for recreational purposes protect themselves from air borne fungus resulting from project site disturbances as they have no place to go indoors?

4. How will customers at the St. Theresa Mission and Front Site Training Institute protect themselves from exposure due to the proposed projects volume of site disturbance during both the construction and operational phase of the proposed project?

5. What is the feasibility of local residents and others in the area "staying indoors" during times when wind events last for longer than 1 day as is known to occur in the area?

6. How does the currently proposed mitigation measure of staying indoors during potential exposure times comply with Nuisance Regulation H&SC §41700?

7. Considering the proposed project site will experience continued soil disturbance over the project's lifetime due to critically required maintenance activities, is this the only mitigation plan that can be utilized to protect public health for the next 25-30 years if the project is approved?

16. CONSTRUCTION AND OPERATIONAL DUST: T&E SPECIES

Background

In California's El Dorado County Air Quality Management District, Rule 223.2.E, the District makes provisions regarding impacts of construction dust in relation to California or Federal Endangered Species.

"Rule 223.2.E: *Any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigating actions are in conflict with the California or Federal Endangered Species Acts, as determined by the State or Federal agency responsible for making such determinations*."(1)

Desert Tortoise, a federally protected species, has been experiencing significant population declines, much of which is attributed to respiratory illness. Coinciding with this decline has been the expansion of human disturbances via urbanization and various industrial and/or military projects within the desert tortoises' range.

Questions

1. Are there any studies that have analyzed the impacts of construction emissions, fugitive dust, or chemical dust suppressants in relation to respiratory trends and impacts to Desert Tortoise that the CEC Staff is aware of and might apply to the proposed project?

2. What is the projected zone of impact to Desert Tortoise and other special status species from project emissions (construction and operational), fugitive dust and onsite chemical use (such as dust suppressants/soil binders) if the proposed project is approved?

17. FOOD PRODUCTION/PRODUCE EXPOSURE PATHWAYS

Background

In the GBUAPCD's response to public concerns regarding project impacts to local food production in the area during the Notice of Preliminary Compliance, they stated,

"*The District believes that the project will have no significant impacts on local food production for residents in Charleston View*."(2)

While I raised concerns regarding food production under the heading, Produce Exposure Pathways, this reference was not intended to limit analysis of impacts on local food production to this narrow scope exclusively. For example, in the AFC files, the applicant states,

"…..Emissions, principally nitrogen oxides (NOx), from the auxiliary boilers could have a potential adverse effect on soil-vegetation systems where environments, such as serpentine habitats, that are highly sensitive to nutrients (e.g., from nitrogen deposition) are downwind of the project. However, because there are no serpentine habitats in or surrounding the project area and because the amount of additional nitrogen to the area will be very small, the expected impact of operation of HHSEGS on soil-vegetation systems is expected to be less than significant."(3)

(1) http://www.co.el-dorado.ca.us/Government/AirQualityManagement/Construction_Dust_Rules.aspx
(2) Notice of Preliminary Determination of Compliance, Appendix A, Response to Question 9.2., pdf. pp. 39
(3) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pdf. pp. 11

One of the reasons the applicant dismisses any adverse impacts from NOx emissions to soil-vegetative systems in the environment is by stating there are no acknowledged "*serpentine habitats*" surrounding the project site. Though the applicant states that operations "*could have a potential adverse effect on soil-vegetation systems",* another reason the applicant uses to dismiss potential adverse impacts are because soils highly sensitive to nutrients are "*downwind of the project*".

First, the applicant admits that there are soils in the area that are highly sensitive to nutrients but then dismisses any adverse impacts based on the flawed assumption that winds only blow one way throughout the entire year. It also ignores the fact that the current zoning for both the project site and the surrounding area considers agricultural use its "highest and best use". Compounding these issues is the applicant's assumption that the project site and surrounding environment will stay exactly as it is over the next 25-30 years with no agricultural production ever occurring "*down wind*" or anywhere within its vicinity.

Another example of potential adverse impacts to local food production concerns fugitive dust. One such example has been reported by Larry and Donna Charpied, residents who operate a organic jojoba farm outside the recently approved Desert Sunlight Solar Farm.

According to the Charpied's, fugitive dust from construction activities has caused a "false pollination" to occur on their jojoba flowers, which in turn resulted in a 30% loss of their crop. They are also reporting the Solar Farms large-scale disturbance and removal of topsoil is resulting in some of the worst dust storms they have ever seen in the area, despite the fact that only 10% of the total project area had been cleared as of February 2012. See next page for photos.

Above: Construction progress at Solar Desert Sunlight Farms. Only 10% of the total project area has been cleared.
Below: Dust and storm impacts to local air quality since construction began at Solar Desert Sunlight Farms.
Photo's courtesy of Larry and Donna Charpied. Source: Basin and Range Watch, 2/19/12, "Dust Compliance Violations", http://www.basinandrangewatch.org/DesertSunlight.html

Questions

1. While it is acknowledged that serpentine habitat containing specialized soils and adaptive plant species related to those soils may be adversely affect from NOx emissions, could the NOx emissions and their cumulative impacts over the life of the project effect the wide variety of fruits and vegetables currently grown in the area for local food production?

2. Are there species of fruits, vegetables or alternative types of vegetation that may be highly sensitive to nutrient absorption via roots or leaves as described in the "serpentine habitats" that may also be affected by annual or cumulative emissions from the proposed project? If so, what are they and what are the emissions impact levels that could trigger adverse effects?

3. As NOx builds within the soils in the area as well as other criteria and non criteria pollutants and PAH's, (i.e., diesel particulate matter, VOC's, etc.), over the life of the project, can these cumulative impacts cause our fruit trees or vegetable gardens from obtaining the nutrients they need to grow and/or produce fruit via the root systems, clog the leaves thereby preventing adequate photosynthesis, or potentially impact flower production that may in turn cause reductions in product yield or plant death?

4. Are there models for air emissions impacts on species-specific fruit/vegetable production and yield that could tell those in the community that produce food more about the potential direct, indirect and cumulative impacts to our food production over the life of the project?

5. If agricultural production on a commercial scale were to be initiated surrounding the proposed project site over the life of the project, what impacts will emissions have to those commercial crops?

6. If these models on food production exist, would the CEC Staff recommend the applicant perform a modeling analysis for direct, indirect and cumulative impacts to community food production over the life of the project? If not, why not?

7. Are there other sources of air pollution, such as the fugitive dust example given by the Charpied's who claim they lost 30% of their crops through false pollination, which may also adversely impact local food production if the proposed project is approved?

8. What does the CEC Staff define as a "significant impact" on food production? 10% loss of crops/vegetation? 20% loss of crops/vegetation? 50% loss of crops/vegetation?

9. Can single source emissions, cumulative emissions or other impacts from the proposed project reduce local pollinators (insects) to a significant degree that in turn would cause a reduction and/or prevent of pollination of food crops?

18. COMMUNITY HEALTH RISK ASSESSMENT

The applicant revised their Health Risk Screening in the Boiler Optimization Plan revision. In some areas, the applicant was more thorough in describing the modeling parameters than in the original AFC files and in some instances, the Health Risk Screening became more obscure.

After reviewing the GBUAPCD's response to questions concerning Produce Exposure Pathways regarding local food production(1), I also reviewed the Air Toxics Hot Spots Program Risk Assessment Program Guidance Manual. With respect to whether or not the applicant was aware of food production in the area, it would appear the applicant was suppose to consult with the District ***first*** to determine the zone of impacts, potential exposure pathways, population estimates, worker exposure concerns, etc., prior to initiating the modeling.

> "*The District should be consulted before modeling efforts are initiated. If the zone of impact is greater than 25 km from the facility at any point, the District should be consulted. The District may specify limits on the area of the zone of impact. Ideally, these preferences would be discussed with the District before being presented in the modeling protocol and HRA*."(2)

Additionally, the PAHs the District referred to in its response only provide PAH and other well-known hazardous emissions such as Benzene for solely the auxiliary boilers, nothing else. Furthermore, the GBUAPCD failed to define the "produce exposure pathway" it referenced.(3)

The applicant also provided additional Emissions Risk Assessment Tables for Emergency Engines – but they don't include the any separate hazardous emissions resulting from diesel exhaust, despite the fact that diesel exhaust particles are described by OEHHA as containing more than 40 toxic air contaminants and is considered a major source of hazardous air pollution. In describing some of its effects on human health, OEHHA states,

> "*Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat and lungs, and it can cause coughs, headaches, lightheadedness and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks."*(4) [emphasis added]

(1) Notice of Preliminary Determination of Compliance, Appendix A, Response to Question 9.1., pg. 39
(2) Air Toxics Hot Spots Program Risk Assessment Guidelines/Program Guidance Manual for Preparation of Health Risk Assessments, Section 4.6.1, Zone of Impact, pdf. pp. 43. http://oehha.ca.gov/air/hot_spots/pdf/HRAguidefinal.pdf
(3) Notice of Preliminary Determination of Compliance, Appendix A, Response to Question 9.1., pp. 39
(4) http://www.oehha.ca.gov/public_info/facts/dieselfacts.html

Proven short term effects have also produced, "*increased cough, labored breathing, chest tightness, and wheezing,*" and "*A significant increase in airway resistance and increases in eye and nasal irritation*" for those exposed to diesel exhaust in a chamber for merely one hour.(1)

The only other relevant table the applicant presents shows an 8-hour Exposure Period for three chemicals (Acetaldehyde, Acrolein and Formaldehyde) resulting from the Auxiliary and Nighttime Preservation Boilers, but no PAHs or other hazardous pollutants either.

Finally, the applicant provided a "Summary of Estimated Potential Health Risks" in Table 5.9-6R(2) but the accompanying text does not provide any supporting data or references that outline logical progressions or profiles necessary for the applicant to reach these "summary conclusions" (such as type of chemicals and health risks incorporated in the modeling).

TABLE 5.9-6R
Summary of Estimated Maximum Potential Health Risks

Receptor	Carcinogenic Risk[a] (per million)	Cancer Burden	Acute Health Hazard Index		Chronic Healt Hazard Index
			1-hour	8-hour	
MICR and HHIs at PMI	2.8 in one million	0	0.003	0.004	0.001
MICR and HHIs at Residential Receptors	0.5 in one million	0	0.002	0.002	0.0002
MEIW at PMI	0.4 in one million	0	n/a[b]	n/a[b]	n/a[c]
Significance Level	10	1.0	1.0	1.0	1.0

[a]Derived (OEHHA) Method used to determine significance of modeled risks.

[b]Acute analysis is always done as a single point exposure and is not affected by the type of analysis or exposure duration.

[c]The worker is assumed to be exposed at the work location for 8 hours per day, instead of 24; for 245 days per year instead of 365; and for 40 years, instead of 70. Therefore, a 70-year-based chronic health hazard index is not applicable to a worker.

HHI = Health Hazard Index

Questions

1. What does this chart reflect and model besides cancer risks?

2. What chemicals (by specific component) and emissions does this chart represent under "Acute Health Hazard Index" and "Chronic Health Hazard Index"?

3. Does it incorporate just carcinogenic risks exclusively or does it incorporate other health risks such as respiratory conditions? If so, which ones?

(1) http://www.arb.ca.gov/toxics/dieseltac/de-fnds.pdf
(2) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pdf. pp. 337

4. Did the applicant model or provide any Health Risk of Diesel Exhaust assessment for potential respiratory impacts or other health impacts to workers or local populations resulting from diesel emissions besides cancer? If not, why not?

5. Did the CEC Staff request any additional Health Screening Risks of Diesel Exhaust from the applicant besides the supplied cancer risk assessment or consult with the applicant in any way prior to the applicant initiating the parameters for the Health Screening Risk modeling? If not, why not?

6. Where is the "produce ingestion pathway" referred to in the GBUAPCD's response or in the AFC files or subsequent documents?

19. ALL TERRAIN VEHCILES: EVADING ENVIRONMENTAL IMPACT ANALYSIS?

Background

In responses received from questions submitted to the Great Basin Unified Air Pollution Control District (GBUAPCD), with respect to fugitive dust impacts from All Terrain Vehicles, the GBUPACD stated the following:

> *21.1: The term "Gator" refers to a small, lightweight, utility vehicle, with the "AWD" designating that the vehicles are all-wheel drive. This type of vehicle is most commonly used on golf courses, for landscaping, and for internal transport on large campuses. These vehicles are expected to be used at the project in much the same way—to deliver personnel, light tools, and **small quantities of materials** to various locations internal to the project area."* (1) [Emphasis added.]
>
> *"21.2: Similar to delivery vehicles, the utility vehicles are not expected to operate excessively on active disturbed surfaces, and therefore would not contribute significantly to onsite fugitive PM_{10} and $PM_{2.5}$ emissions. Rather, these vehicles will operate mainly on paved, improved, and stabilized surfaces. Their emissions are accounted for under Fugitive Dust in Tables 5.1F-1 and 5.1F-2 of the AFC."*(1) [Emphasis added.]

However, the CEC Preliminary Staff Assessment had a different description with respect to how the AWD Gators (All-terrain vehicles) would be utilized at the project site as described below.

> *"Note 1: No grading required. All-terrain vehicles would install pylons and mount heliostat assemblies. Assuming negligible soil disturbance."*(2)

(1) 2012-05-09 Notice of Preliminary Determination of Compliance, TN-65145, Appendix A, Response to Question 21.1 & 21.2, pg. 48.
(2) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 574.

First, it is obvious that there are differing descriptions of what the roles of the ATV's will play in the construction of the proposed project. However, the common denominator in both scenarios is to present the most minimal analysis possible regarding the potential adverse environmental impacts that may result from the use of the ATV's to install the heliostat/mirror assemblies.

Given the fact that land management agencies such as the Bureau of Land Management and others charged with habitat protection, managing soil degradation impacts, etc. have identified off road vehicle use as one of the most degrading recreational uses around that have wide spread significant adverse impacts soil, water and biological resources, it is incredibly hard to believe the applicant's use of ATV's will only result in "negligible" soil disturbance as they will be responsible for the installation of at least 170,000 heliostat/mirror assemblies.

Here is one example offered below but numerous Off-Highway Vehicle restrictions and management plans can be found in almost all BLM managed areas.

BLM: Off-Highway Vehicle Use/Travel Management
"*If you drive a car, truck, all-terrain vehicle, four-wheeler, or motorcycle on Forest Service or BLM public lands in Montana, North Dakota, or South Dakota,* ***you must stay on roads and trails****. The BLM and Forest Service have issued decisions that prohibit "cross-country" OHV travel in order to minimize user conflicts and protect fragile soils, riparian areas, vegetation, and wildlife".*(1)

In other words, all available data indicates that the use of all-terrain vehicles results in significant adverse impacts to the environment. There is nothing to support the assertion that their use to install 170,000 heliostat/mirror assemblies will result in "negligible" soil disturbances or impacts to air quality.

On November 11, 2011, the applicant and CEC conducted a Site Visit to tour the proposed project area. During this time period (shortly before and shortly after this date), the applicant had set up a travel trailer to serve as an office at the Orchard Well location. After the site visit was over, members of the applicant's team used the remaining time to enjoy a little recreation around the site. They rode ATV's all around the area, had a campfire and discharged firearms. In other words, it was fun for everyone except those who had to listen to the festivities.

Photos of the adverse soil impacts resulting from the applicant's off-road vehicle use can be seen in Appendix I: Site-Specific Soil Impacts From Off-Road Vehicle Use.

(1) http://www.blm.gov/mt/st/en/prog/recreation/ohv.html

Questions

1. Is the Great Basin Unified Air Pollution Control District unaware of how the applicant intends to utilize the all-terrain vehicles at the proposed project site?

2. How can the soil disturbance of installing 170,000 heliostat/mirror assemblies be considered “negligible”?

3. Where is the site-specific data located that describes how the heliostat/mirror assemblies will be installed, how many will be installed per day per ATV and how long this process is expected take?

APPENDIX I

SITE-SPECIFIC SOIL IMPACTS FROM OFF-ROAD VEHICLE USE AT THE PROPOSED PROJECT SITE (HHSEGS)

Above: Soil impacts from vehicle travel and remnants of campfire at base camp set up at Orchard Well location to conduct Site Tour. Below: Another angle of campfire remains at Orchard Well base camp.
Photos taken 12/20/11.

Above and below: Soil impacts from vehicle travel on the way up to the applicant's weather station.
Photos taken 12/20/11.

Above and below: Soil impacts from vehicle travel at the applicant's weather station.
Photos taken 12/20/11.

Above and below: Soil impacts from off-road vehicle use at the proposed project site.
Photos taken 12/20/11.

Above and below: Soil impacts from off-road vehicle use at the proposed project site.
Photos taken 12/20/11.

Above and below: Soil impacts from off-road vehicle use at the proposed project site.
Photos taken 12/20/11.

ALTERNATIVES

“You know, I've always liked you, boy
'Cause you were not afraid of me.”

4. ALTERNATIVES

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1. PROJECT OBJECTIVES: WIDENING THE SCOPE

Background

During the July 2, 2012, CEC Workshop on Alternatives, the subject of the project objectives was discussed. This discussion included statements by CEC Staff describing how the applicant's listed project objectives were "too specific" for an alternatives analysis. At the time, I didn't understand what Staff meant; now I do and apologize for my slow response time.

Because the applicant had provided such a narrow scope of project objectives, objectives which conformed to strict guidelines that served the applicant's interest of creating only a SEGS of a specific kind to produce specific results, it limited the scope of analysis to exclude alternatives because no alternative was capable of producing exactly that kind of objective in that specific manner.

Therefore, I applaud Ms. Hinde for recognizing this limitation in the project objectives description and support Staff's efforts to "widen the scope" in order to ensure the proposed project serves the public interest as much as the applicant's interest.

2. BLOOM ENERGY SERVERS™: APPLICANT DATA

Background

On January 18, 2012, I submitted a Comparison Analysis of impacts and power generation capabilities between two different available technologies; the proposed HHSEGS and Bloom Energy Servers™.(1)

After its submission, a transcript of the CEC Status Conference held on February 28, 2012, stated the applicant would take the following actions:

> *"Applicant has contacted Bloom Energy, who's the developer of that technology, and we'll be providing staff with information on that technology to include in the analysis."*(2)

(1) Letter From Inyo County Resident Cindy MacDonald Regarding Bloom Energy Servers™ available at: http://www.energy.ca.gov/sitingcases/hiddenhills/documents/others/2012-01-23_BES_Alterative_Document_from_Inyo_County_Resident_Cindy_MacDonald_TN-63426.pdf
(2) Transcript of the February 28, 2012, Status Conference, pg. 23.

However, the CEC Staff only provided three references as their source for reviewing information relevant to the use of the Bloom Energy Servers™ as an alternative source of power production at the proposed site(1). This included one letter dated a year ago regarding responses from Bloom Energy™ regarding their perceived role in the implementation of achieving a 12,000 MW distributed energy goal and two company website pages, "What is an Energy Server?" and "Bloom Energy™ Customers".

During the July 2, 2012, CEC sponsored workshop on Alternatives, I reminded the applicant of their statement from the February Status Conference Transcript and asked them what information/data regarding the Bloom Energy Servers™ they had provided to Staff. While the applicant responded that they ***had*** sent information to Staff, when asked what they specifically provided, there was no response.

Questions

1. What information/data did the applicant provide to the CEC Staff about Bloom Energy Servers™ and when was it provided?

2. What evidence is available that confirms the fact that the applicant contacted Bloom Energy™ regarding the site-specific feasibility and viability of using their technology for power generation at the proposed project site?

3. BLOOM ENERGY SERVERS™ ALTERNATIVE

Background

During the July 2, 2012, CEC sponsored workshop on Alternatives, a discussion occurred surrounding the potential advantages and disadvantages of utilizing Bloom Energy Servers™ as an alternative power generation source to the proposed HHSEGS.

The applicant stated (generally):

- Their deployment would still require a natural gas supply.
- They had never been used for power generation over 20 MWs.
- They were reported to perform poorly in the heat.
- They would not qualify for RSP requirements.

I stated (generally):

- They were a relatively new technology and just because they had never been used to generate 500 MW of power didn't mean they couldn't be used in such a manner.
- It was my understanding the Bloom Energy Servers™ were merely a product the applicant could purchase to generate power at the proposed site.

(1) CEC Preliminary Staff Assessment, Appendix Alternatives-1: Other Renewable Energy Technologies, pg. 1,130 and 1,131.

- Almost all the mitigation measures being proposed to offset the adverse environmental impacts of the proposed HHSEGS would not be needed due to the small land and comparative resource requirements of this alternative technology.
- The Bloom Energy Servers™ potential to achieve the equivalent power generation without causing the wide-scale adverse environmental impacts the HHSEGS will cause was significant enough to demand a more rigorous analysis than had so far been done, and that,
- While Bloom Energy Servers™ may ultimately prove not to be the environmentally superior alternative, they deserved more investigation than just two generalized company website pages and a generic letter dated a year ago that had no site-specific relevance to the proposed project or their potential use as an alternative technology to help meet California's renewable energy goals.

I have tried to generally describe the key points of this discussion so that some sort of record is established regarding these issues.

The conclusion of this discussion resulted in CEC Staff committing to go back and revisit this technology as a potential alternative to the HHSEGS for equivalent power generation. For that, I thank you and am looking forward to the more rigorous analysis.

Questions

1. If there is any truth to the statement that the Bloom Energy Servers™ do perform poorly in the heat, couldn't a climate-controlled building resolve that issue?

2. Is the applicant's statement true that the Bloom Energy Servers™ would fail to qualify for RSP requirements? If so, please provide a discussion as to why this is important and why this particular project must conform to the RSP requirements.

CULTURAL RESOURCES

"It's just like home
It's so damned hot, I can't stand it."

IN MY HEART

In my heart
quiet memories of you
happy times of sharing
life in your embrace
ever stretching, ever reaching
to the core of my soul
for you surround me
penetrating me, your sweet
essence enfolds me

I remember resting my head
upon your snowy clouds
staring deep at
liquid diamond nights
brilliant oranges, pinks and golds
illuminates horizons
where glowing sun
begins and remembers each new day

Watching stubby twigs
mature to sing in the winds
green leaves blending
to powder blue sky
swaying when gray descends
naked in winters cold
the smell of cut grass
animals, sweat, and earth
the pungent smoke
from the little black chimney
mingled with the scent
of home cooked meals

I don't even notice the honking geese
or the roosters' crow
drown in
laughter, music, yapping mutts
hungry cats and channel 5

The tattered chairs
remind me of the time
we've spent together
shivering in January
toilet seats like ice
tiles numbing toes
often asking myself
how can it be so cold
in this great desert valley?

Mountains, rolling hills
brown or snow crested
surround my niche
with familiar strong security

I shall not forget
the times we walked till dusk
trading secrets in the warm,
warm summers eve

We are one spirit
breathing the same breaths
forever you will live
you are my home

Cindy....
1/19/83

5. CULTURAL RESOURCES

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1. NATIVE AMERICAN BURIAL SITE & PROJECT SITING: LORS COMPLIANCE

Background

In the document, "Intervenor Cindy MacDonald's Comments Regarding Cultural Resources" (1) , I included photos of a Las Vegas Review Journal newspaper article published in 1955 that described the Hidden Hills area as home to a Native American burial ground that was estimated at that time as being over 100 years old.

However, in the Supplemental Staff Assessment (2) , Cultural Resources Table 1, Laws, Ordinances, Regulations, and Standards, no references were found regarding LORS that may apply to project siting in or around a Native American burial ground.

As a result, please discuss, analyze and evaluate project siting compliance and the Native American burial ground located within the projects vicinity and/or zone of impact in relationship to the following LORS.

1. Native American Graves Protection and Repatriation Act
2. Executive Order 13007
3. Executive Order 12898
4. Executive Order 13175
5. Public Resource Code § 5097.99
6. Public Resource Code § 5097.991
7. Public Resource Code § 5097.993-5097.994
8. Penal Code § 622
9. California Health & Safety Code 8010-8011

Questions

1. Based on project siting review, what impacts, degrees of significance and LORS compliance will the proposed project have in relation the above cited LORS?

(1) http://www.energy.ca.gov/sitingcases/hiddenhills/documents/others/2012-04-02_Cindy_MacDonald_Comments_Regarding_Cultural_Resources_TN-64534.pdf
(2) Supplemental Staff Assessment and Schedule Update, pg. 5.

2. CULTURAL RESOURCE DEMOLITION & DESTRUCTION

Background

Over the last six months, a great deal of activity has been occurring in the Hidden Hills area that has resulted in the destruction of long-time structures in the area. Some of the most dramatic include the demolition of two buildings that were formally part of the Yountz Ranch and/or Wiley's Ranch and the "salvaging" of the steel beams that use to anchor the bridge at Cathedral Canyon. See Appendix I: Recent Demolition of Hidden Hills, for detailed photos.

Questions

1. Were any of the structures in the Hidden Hills area, such as the remnants of the Yountz Ranch, identified as historic or cultural resources by the CEC Staff or the State of Nevada?

2. Is the CEC Staff, applicant or current property owner aware of the recent high-level activity and destruction of historic and cultural resources in the proposed project's zone of impact?

3. Does the current property owner have the right to demolish any and all of this property because it is located on private land?

3. CULTURAL RESOURCE INTERPRETATIONS

Background

Though laws have been established purportedly to offer consideration, review and protection for the cultural and historic resources of our Nation and peoples, there is a great deal of evidence indicating that "what" is considered a cultural or historic resource and should it be protected depends on the class of people involved in interpreting, validating and officially sanctioning its import.

Below is an excerpt taken from a Declaration by Dr. Thomas F. King, whose resume and involvement in the development and interpretation of how to implement cultural and historic resource preservation and protection spans decades. His most recent books include, "Companion to Cultural Resource Management", "Thirteen Bones" and "Our Unprotected Heritage: Whitewashing Destruction of Our Natural and Cultural Environment".

One of my favorite excerpts from this Declaration states:

"In essence, agencies were regarding as not eligible for the National Register any place that was not recognized and valued by a professional archaeologist, architectural historian, or historian, regardless of the significance of the place in the eyes of local communities. We at the NPS and ACHP thought this tendency to be ethnocentric, elitist, discriminatory, and inconsistent with NHPA's purposes (See, for instance, Section 1(b)(3): "the historical and cultural foundations of the Nation should be preserved as a living part of our community life and development in order to give a sense of orientation to the American people," – not just to its historic preservation professionals)."(1)

I personally found this excerpt extremely relevant with respect to the differences that seem to occur between "official" interpretations of what has cultural and/or historic value in land management type process and "individual" interpretations of what has cultural and/or historic value.

What this specifically applies to with respect to the siting of the HHSEGS is the complete omission of any discussion in the Supplemental Staff Assessment regarding the cultural and spiritual significance of Cathedral Canyon to *people* vs. officials.

Questions

1. Will the CEC Staff discuss, analyze and evaluate the impacts of the proposed project to Cathedral Canyon?

2. Has anyone from CEC Staff discussed the possibility that the applicant donate or otherwise turn the land Cathedral Canyon is located on over to a state agency for cultural and/or historic preservation?

4. CULTURAL AND HISTORIC ADVERSE IMPACT DETERMINATION

Background

In the CEC Staff Supplement Assessment regarding adverse impacts to cultural and historic resources occurring in the proposed project's vicinity, I just wanted to say thank you for the extensive research and acknowledgement of the important resources that can be found in this area. Hopefully, they can be preserved and protected in a manner that won't just reduce them to a screen on an Interpretative Center should the proposed project be approved.

(1) Declaration by Dr. Thomas F. King, Civil Action No. C-03-4350 MHP.

APPENDIX I

RECENT DEMOLITION OF HIDDEN HILLS

Above: What the steel beams of the former Cathedral Canyon Bridge looked like on 12/20/11.
Below: What the steel beams of the former Cathedral Canyon Bridge looked like on 4/25/12.

Above: Charred vegetation impacted by the demolition of an old building at the Ranch.
Below: Charred remains and debris that exploded from the demolition.
Photos taken 4/25/12.

ENVIRONMENTAL JUSTICE

“And all the hills are burning
The wind is raging
And the clock strikes midnight “

6. ENVIRONMENTAL JUSTICE

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1. MOTHBALLING: ENVIRONMENTAL & COMMUNITY BLIGHT

Background

The CEC Preliminary Staff Assessment provides the following description of how the applicant may cease operations over the life of the proposed project as described below.

> *"HHSEGS is designed for an operating life of 25 to 30 years (HHSG 2011a). Facility closure can be either temporary or permanent, and closure options range from "mothballing," with the intent of a restart at some time, to the removal of all equipment and facilities."*(1)

The option to cease operations by "mothballing" the proposed project should be limited by a Condition of the Permit. Allowing unlimited time to mothball a project of this magnitude fails to serve the public interest in any manner and would cater exclusively to the applicant's needs.

Additionally, there are potentially significant inherent dangers, environmental degradation and public safety hazards associated with the heliostat/mirror/battery assemblies in relation to their siting at the bottom of an alluvial fan system. Please see the section Soils and Surface Waters, Soils: General and Alluvial Fans: Significant Impacts, of this comment submission for more detailed explanations.

Questions

1. The reclamation plans for the proposed project are a significant component of the CEQA equivalency evaluation process and of special concerns for Inyo County. How does "mothballing" the project conform to these reclamation plans and requirements?

2. What is the maximum amount of time the applicant would be allowed to "mothball" the facility without triggering "Final Closure" requirements?

3. Would the CEC Staff consider including time limits for "mothballing" the facility as a Condition of the Permit?

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 597.

4. Would a 90-day "mothballing" limit be appropriate to prevent the applicant from abandoning the project site and leaving its potentially adverse environmental impacts from being unattended? (Examples might include shifting of heliostat/mirror assemblies that are no longer corrected by operational software systems creating public safety hazards to those in the area and/or passing motorists.) If not, what does Staff believe would be an appropriate time limit to set for "mothballing" and what would be the reasons that support this time frame?

2. CEC STAFF'S ENVIRONMENTAL JUSTICE DETERMINATIONS

Background

Throughout the majority of the CEC Preliminary Staff Assessment, Staff makes several references regarding how the proposed project will not violate or trigger any environmental justice issues. However, there is little evidence presented to support Staff's assertions.

In my previous comments, I provided a great deal of information regarding issues related to environmental justice impacts to the local community, asked many questions regarding how the applicant had made the determination that the installation of the proposed HHSEGS would be "less than significant" on the community of Charleston View and provided information that supported environmental justice issues would be triggered for residents living in the area should the proposed project be approved.

Unfortunately, the vast majority of comments I submitted regarding many of the areas of impacts the proposed project would cause were erased by Staff in the Preliminary Staff Assessment (PSA) as section by section stated "No Public Comments Were Received", even though the evidence obviously refutes Staff's claim.

Though Staff has claimed that the identified issues, concerns, questions, recommendations, etc. previous submitted in March, 2012, titled, "Cindy MacDonald's Preliminary Comments, Technical Analysis and Recommendations" will finally be addressed in the Final Staff Assessment, Staff's denial of even receiving my comments in the PSA have made it very difficult to ascertain "what" will be addressed and "what" will remain ignored.

As a result, I am deferring any further comments regarding environmental justice issues to prevent redundancy until after Staff's publication of the Final Staff Assessment in hopes that explanations, analysis and reasons for determinations will be forthcoming and finally addressed.

FACILITY DESIGN

“Yeah, I was once a golden boy like you.”

7. FACILITY DESIGN

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1. DISCUSSION/ANALYSIS OMISSION

Background

In the Engineering Assessment section of the CEC Preliminary Staff Assessment, Staff states they will verify and analyze a significant number of project components in the facility design including civil, structural, mechanical, and electrical engineering of the HHSEGS.

However, no such discussion, disclosure, verification or analysis occurs on any level regarding the proposed projects civil, structural, mechanical, and electrical engineering design. Neither does any discussion, disclosure, verification or analysis occur on any level of the proposed project's design regarding potential impacts to public health.

The section, "*Assessment of Impacts and Discussion of Mitigation*", covers all of one paragraph. The section "*Major Structures, Systems, and Equipment*", which is suppose to disclose, discuss, analyze and verify the proposed project's design are reasonably in conformance to LORS, is comprised of all of three paragraphs, one of which lists all the LORS it must conform to at a later date.

The entire Facility Design Section does not even span five pages. The rest of the section devotes itself to "Mitigation Measures" for facility design components such as civil, structural, mechanical, and electrical engineering elements that Staff freely admits won't even be drawn or prepared until after the proposed project is approved.

Questions

1. What laws, if any, require the CEC Staff or the CEC to evaluate, assess and verify the proposed project's Facility Design during the CEQA or AFC process?

2. How does the CEC PSA Facility Design Assessment conform to these requirements or LORS?

3. How does the CEC Staff "verify" that the proposed projects major components are civilly, structurally, mechanically, and electrically sound when none of the designs required for this verification have been prepared yet?

4. How does the CEC Staff determine the proposed project will most likely be in compliance with LORS when the majority of the facility's design, including its civil, structural, mechanical, and electrical engineering design elements are "to be announced" after project approval?

5. How does the CEC Staff determine if the proposed projects civil, structural, mechanical, and electrical engineering design elements have potentially significant impacts, significant impacts or impacts that cannot be mitigated without reviewing actual civil, structural, mechanical or electrical design elements of the proposed project in relation to the project site?

6. How does the CEC Staff determine potentially significant impacts, significant impacts and impacts that cannot be mitigated – including those that may affect public health and resources - if these project components have yet to be drawn, evaluated or assessed by qualified professionals in compliance with industry standards?

7. How does the CEC Staff determine that the proposed recommendations and mitigation measures will be effective in reducing impacts if the proposed projects civil, structural, mechanical, and electrical engineering design elements have not been drawn or developed, will not be developed, will not be reviewed by qualified professionals and will not be assessed for compliance with industry standards for these critical design elements until after the AFC process is closed and the final decision is issued?

8. How does the CEC Staff determine site suitability for the proposed project if the civil, structural, mechanical, and electrical engineering design elements are never even prepared or reviewed prior to project approval?

9. Given the complete lack of information, data, industry standard design plans and utter lack of oversight or evaluation of the proposed project by qualified individuals in relation to industry standards and site suitability, how can the CEC Staff's determinations, recommendations and mitigation measures be considered anything more than hearsay?

HAZARDOUS MATERIALS

“We were stokin' the fires
And oilin' up the machinery"

8. HAZARDOUS MATERIALS

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1. LEAD ACID BATTERIES

Background

In the Boiler Optimization Plan, the applicant included the introduction of a very large but unknown quantity of lead-acid batteries to power the heliostat/mirror assemblies that had been previous inadvertently omitted from the AFC files hazardous materials section.

Questions

1. What is the total number of lead batteries the proposed project will have on site?

2. How many lead batteries are needed to power the heliostat/mirror assemblies?

3. How long is the projected life expectancy of these lead batteries?

4. Where will these lead batteries be connected to the heliostat/mirror assemblies? Will they be in contact with the soil? If not, how far from the ground will they be?

5. What are the potential adverse environmental impacts to soil, water, and biological resources over the life of the project due to the lead-acid batteries introduction to the environment over the life of the project?

6. What are the potential adverse environmental impacts to human health and public safety due to the lead-acid batteries introduction to environment over the life of the project?

HELIOSTATS

“And the war was coming
The earth was shaking”

9. HELIOSTATS

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1. MIRROR WASHING MACHINES AND MAINTENANCE SCHEDULE: NOT FEASIBLE

Background

The mirrors/heliostats are advertised as the central component of the project design that qualifies it as a renewable energy generation source. Therefore, their performance is critical in generating electrical output. However, there are some serious questions and discrepancies regarding the applicant's equation for the projected mirror washing rotation schedule and the number of Mirror Washing Machines (MWM) necessary to achieve that schedule in order to maintain performance levels.

The following elements are what are currently known regarding the design and operations of the MWMs with respect to maintenance cleaning activities (not including scrubbing).

Each solar plant will be divided into two zones for maintenance and cleaning purposes; the Near Tower Zone (NT) and the Far From Tower Zone (FFT). Each zone will require two different types of MWM's due to the design layout and mirror density as described by the applicant below.

> *"Each solar field is divided into two zones for the purpose of heliostat cleaning, depending upon the locations and density of heliostat placement. These zones determine what type of mirror washing machine can be used for the heliostats in the zone. The Near Tower (NT) Zone consists of the area closest to the tower. The layout in this zone allows a vehicle to drive between the heliostats so that each heliostat can be accessed directly. The NT mirror washing machines are small and maneuverable. Each solar plant will require one NT mirror washing machine."* (1)

With respect to the FFT Zone, in the original AFC files, the applicant describes the number of MWM's required for mirror cleaning activities in the areas outside the NT's Zones per solar plant.

> *"Each solar plant will require a total of 17 tractor-pulled trailers for cleaning heliostats outside the NTZ."* (2)

(1) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 106.
(2) AFC Files, Section 5.1, Air Quality, pg. 42

In the applicant's Boiler Optimization Plan, the applicant reduces the number of mirror washing machines to only 7 machines per plant.

> *"Each solar plant will require a total of 7 machines for cleaning heliostats in the FFT zone."*(1)

In the California Energy Commission Proposed Decision for Bright Source's Ivanpah Solar Plant(2), as well as in the Boiler Optimization Plan for the Hidden Hills SEGS, the applicant states the projected mirror washing frequency is a "*2-week rotating cycle*"(3).

At this time, the applicant has not included data regarding the required time to clean each mirror/heliostat pair at the Hidden Hills SEGS but a general idea can be obtained from the mirror washing time requirements outlined in the Stirling Energy Systems Solar Two Project CEC Staff Assessment(4), which stated:

> "*Mirror washing would be required approximately once every month, requiring 14 gallons of water per dish with an average washing rate of 20 minutes per washed dish pair, or 10 minutes per dish, since each wash vehicle is able to wash two SunCatchers simultaneously....".*

What is also not known is, out of the 85,000 mirrors per solar plant, how many of these mirrors will be contained in the Near Tower Zones versus the Far From Tower Zones. However, based on these statements of facts, the following can be reasonably concluded:

> <u>Near Tower Zone Maintenance and Performance Schedule</u>
> If each solar plant has 1 NT Zone MWM and it takes ten minutes to clean each mirror, then approximately 6 mirrors can be cleaned p/hour. Over the course of a 10-hour shift, a maximum of 60 mirrors p/day will be cleaned. 60 mirrors p/day multiplied by fourteen days equals 840 mirrors will be cleaned in the NT Zone per solar plant to meet the applicant's 2-week rotating cycle.
>
> <u>Far From Tower Zone Maintenance and Performance Schedule</u>
> First, the number of mirrors in the NT Zones must be subtracted from the 85,000 mirrors p/solar plant. This leaves approximately 84,160 mirrors per plant that will need to be cleaned in the FFT Zone by the remaining 7 MWM's.
>
> 84,160 mirrors p/solar plant divided by 7 MWM = 12,022 mirrors p/MWM
> 12,023 mirrors divided by 14 days = 859 mirrors cleaned p/day
> 859 mirrors p/10-hour shift = 86 mirrors p/hour

(1) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 106.
(2) http://www.circleofblue.org/waternews/wp-content/uploads/2010/09/California-Energy-Commission-Proposed-Ivanpah-Project-DecisionCEC-800-2010-004-PMPD.pdf, pg. 18
(3) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 106
(4) http://www.energy.ca.gov/sitingcases/solartwo/documents/staff_assessment/2_CEC-700-2010-002-SA-DEIS_SectionC-D.pdf

Given the obvious, either the applicant is not going to be able to clean the mirrors every two weeks as projected or the applicant will need to employ many more MWM than is currently accounted for.

Questions

7. Approximately, how many mirrors are projected to be included in *each* zone - Near Tower Zones and the Far From Tower Zones?

8. How long will it take to clean each mirror *per zone*?

9. Based on only employing 1 MWM in the NT Zone, what is the projected length of time it would take to complete one rotating cycle of general maintenance (cleaning, not scrubbing) per solar plant?

10. Based on only employing 7 MWM's in the FFT Zone, what is the projected length of time it would take to complete one rotating cycle of general maintenance (cleaning, not scrubbing) per solar plant?

11. How many additional MWM's would be necessary to keep the applicant's stated 2-week rotating cycle cleaning schedule for each zone?

12. Will additional MWM's or vehicles be required to complete the projected additional maintenance of mirror "scrubbing"? If not, what changes will be made to the time it takes to complete the regularly rotating schedule per zone? If so, how many additional MWMs or vehicles will be required *per zone* and what are their additional operational emissions impacts?

2. MIRROR WASHING MACHINES (MWM): MILEAGE VERIFICATION DATA

Background

On July 13, 2012, the applicant submitted the following information in response to questions raised at the June 27, 2012, CEC Workship in Bishop, California. In response to AQ-10, the applicant stated the following:

> *"There will be one small mirror washing machine (MWM) and 7 large MWMs per solar field, for a total of 16 MWMs at the facility. Each large MWM is expected to travel about 7.4 miles per day, while each small MWM is expected to travel about 11 miles per day."(*1)

Because there is currently no known source of data that describes the number of drive zones/maintenance paths per Solar Plant, there is no data available to cross-reference and verify the accuracy of the applicant's mileage calculations for the MWMs.

(1) Data Response, Set 5 (Responses to Air Quality Workshop Questions), pg. 13

Based on this new information, the large MWM's can be expected to travel 51.8 miles per day collectively and will travel 725 miles in a 14-day period per Solar Plant to meet the applicant's objective of cleaning all the mirrors contained in the Far From Tower (FFT) zones.

The small MWM's will travel a combined total of 22 miles per day equaling 308 miles in a 14-day period per Solar Plant for the Near Tower (NTZ) zones.

All combined, the applicant projects approximately 1,033 miles will be traveled by the MWMs within a 14-day period per Solar Plant. When the mileage per Solar Plant is combined, the mileage totaled for all 16 MWMs equals 2,066 miles per 14-day period.

The proposed project site is reported to be 5.1 square miles.

Questions

1. What data did the applicant use to support the determination that each large MWM would travel about 7.4 miles per day and each small MWM would travel about 11 miles per day and where is this data located?

LAND USE

"Today, I made an appearance downtown
I am an expert witness, because I say I am."

10. LAND USE

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1. ZONE OF IMPACT: INADEQUATE ANALYSIS

Background

Under the current terms of the lease agreement, the applicant will potentially have control of over two-thirds more acreage (6,773 acres) than is required for the proposed project (3,227 acres). No disclosure, discussion, analysis, recognition or evaluation of direct, indirect or cumulative impacts or levels of significance were incorporated in the CEC Preliminary Staff Assessment regarding this adjacent acreage.

Additionally, a significant portion of the proposed project direct, indirect and cumulative impacts falls outside the CEC's jurisdiction, including significant portions of required CEQA analysis and feasible mitigation measures.

The private landowner responsible for leasing the proposed project site also owns property adjacent to the proposed project site on the Nevada side of the border as well, again outside of the CEC's jurisdiction and CEQA analysis. The BLM is projected to only analyze the transmission/natural gas pipeline portion of the proposed project.

Questions

1. Currently, the applicant has no legal land rights to the proposed project site. The applicant will only assume control over the 10,000 acres (total) if the proposed project is approved. Therefore, wouldn't all the acreage the applicant will assume control over only under project approval be considered part of the zone of impact and require analysis to determine the direct, indirect and cumulative impacts with their respective levels of significance under CEQA requirements as well?

2. What jurisdiction, if any, does the CEC have over this additional acreage and its resources?

3. Can the CEC assume jurisdiction over this additional acreage as a Condition of the Permit, even if the proposed project is not directly active on this portion of the site?

4. If the CEC has no jurisdiction over the other 6,800 acres, will the applicant and/or landowner be capable of developing this acreage in any manner they see fit without restrictions or limitations if the proposed project is approved?

5. While the CEC may be able to impose direct limits on water use for the proposed project itself, can the CEC also impose limits on water use regarding the other 6,800 acres that will not be directly a part of the HHSEGS construction and operations?

6. What are the reasonably foreseeable impacts of the applicant's control of this additional acreage if no restrictions or limitations are incorporated as a Condition of the Permit? Topics may include additional development adjacent to the project site such as temporary worker housing, permanent residential housing, commercial development and/or industrial development, growth-inducing impacts, increased water demand, etc.

7. Who is legally responsible and has jurisdiction for evaluating and analyzing growth inducing, direct, indirect and cumulative impacts for potential development on the Nevada side of the border that could as a result of the construction and operation of the proposed project?

2. FEASIBILITY OF ON-SITE PRIVATE LANDS FOR MITIGATION PURPOSES

Background

Under the terms of the current lease agreement, the applicant has secured over two-thirds more acreage than the proposed project needs (10,000 acres). The Preliminary Staff Assessment never mentions this fact nor analyzes potential implications or impacts of this additional acreage being under the applicant's control and interconnected with the proposed project site.

Throughout the Preliminary Staff Assessment and over the course of a variety of workshops, significant discussions have occurred regarding Staff recommended mitigation measures to offset project impacts by requiring the applicant to secure alternative land to be managed in perpetuity for biological and cultural/historic resources.

One of these discussions also occurred at the June 27, 2012 CEC Staff Workshop in Bishop, CA. During this workshop, Inyo County wanted to know what was going to happen with the approximate 6,800 additional acres that would be under the applicant's control but would not be directly a part of the project site. This was a significant concern for the County due to the fact that their private land/tax base is so limited.

While the CEC Preliminary Staff Assessment failed to include this additional acreage as part of the zone of impact of the proposed project under CEQA analysis, the CEC Staff Socioeconomic and Fiscal Impacts of the HHSEGS of Inyo County report did. Unfortunately, this disclosure and discussion merely encompassed one sentence.

> *"The HHSEGS is a proposed 500 MW AC PV power plant. The proposed project would be developed within an approximate 3,277 acre area, with approximately 6,000 additional acres assumed to be used for mitigation measures."*(1)

(1) 2012-05-30 Staffs Fiscal Impacts Study, TN-65530, pg. 10

However, it needs to be clearly noted that the applicant does not own this land and has no jurisdiction regarding securing it "in perpetuity" due to that lack of ownership. The applicant is under option for a long-term lease from a third party and is not capable of committing that land for permanent retirement and preservation purposes.

It is also reasonably predicted that the current owner of the proposed project site would not be willing to permanently release almost 6,800 acres solely to achieve the applicant's objectives, which span merely 25-30 years. The only way this land could be considered "available" for mitigation purposes is if the applicant proposed to buy it outright from the landowner for mutually agreed upon terms. Given the fact that the landowner has only offered a lease option, it is unlikely that either the landowner is willing to sell or the applicant is interested in buying this land outright solely for mitigation purposes.

Questions

1. Instead of the CEC Staff telling the public that they "assumed" this additional private land might be set aside for mitigation purposes, why didn't they include a specific recommendation that this additional acreage be withdrawn from all other uses as a Condition of the Permit?

2. Why would the CEC Staff "assume" the other 6,800 acres could be used for permanent mitigation purposes when the applicant does not own the land being considered for these purposes?

3. If, for some reason, this additional 6,800 acres *was* authorized by the current landowner to be set aside for mitigation purposes during the life of the project, this withdrawal could only be considered temporary. If this additional acreage were to become the focal point for biological and cultural/historic resource preservation, what happens to this withdrawn land and the protection and preservation of these resources after the project is terminated and/or abandoned?

4. How does it serve the public interest to use private lands for biological and/or cultural protection and/or preservation of resources that belong to the people of the state (wildlife, water, air, cultural and/or historic resources) when that protection can be immediately withdrawn once the applicant terminates the lease?

3. TEMPORARY WORKER HOUSING

Background

In the CEC Staff Socioeconomic and Fiscal Impacts of the HHSEGS of Inyo County, several references were made to increased revenue resulting from a "transient tax", which indicated this revenue may be generated as a direct result of the proposed project.

In the CEC Preliminary Staff Assessment, the proposed mitigation measure quoted below also indicates that additional development and plans are potentially being laid by the applicant, may be known about by the CEC and Inyo County, but are failing to be disclosed to the public or evaluated under CEQA analysis.

> *"SOILS-8: Use of the permanent facility septic systems and leach fields for onsite disposal of domestic wastes generated from temporary worker housing is prohibited without prior approval from the CPM."* (1) [Emphasis added.]

If the proposed projects approval may result in temporary worker housing during the construction phase of the project, it is **NOT appropriate** to fail to disclose this to the public, omit the facts of this matter from interested party review, fail to analyze its potential impacts under CEQA, circumvent evaluating the level of significance temporary worker housing may have on the affected environment, exclude this development from analysis in the zone of impact or reserve all mitigation measures and their approval solely to one individual after the proposed project is approved.

Questions

1. What will be the affected acreage of "temporary housing" and where will it be located?

2. How many temporary housing units would be installed, when would they be installed and for how long would they remain active?

3. What will be the affected resources and impacts of temporary housing if the CPM authorizes it? Topics should include construction worker traffic analysis, additional roadways if required, additional septic tanks//leach fields if required, additional water requirements, impacts to biological, cultural/historic and visual resources, etc.

4. What will happen to the area that lodged the temporary housing once it is no longer needed? How will it be developed, maintained and/or reclaimed?

5. What is the projected amount of revenue the "transient tax" would generate for Inyo County and/or the State of California based on this temporary housing?

(1) CEC Preliminary Staff Assessment, PSA CEC 708-2012-003_5-25-12, Soils and Surface Hydrology, pg. 606.

4. PROJECT SITE ACREAGE: INCONSISTENT DATA

Background

There are inconsistencies in reported total acreage that will comprise the proposed HHSEGS. While almost all documents state the proposed project will encompass approximately 3,227 acres, the following acreage assessment was found in the CEC Preliminary Staff Assessment.

> *"The **3,900-acre project site** is adjacent to the Nevada border and encompasses 172 undeveloped vacant parcels on privately owned land in Inyo County, California. The project is located along the northwest corner of Tecopa Road (also known as Old Spanish Trail Highway) and Gold Street in Inyo County. U.S. Geological Survey Topographical maps and historical aerial photographs show the undeveloped project site with graded dirt roads (in a north-south and east-west grid pattern) and vacant land, except for a former orchard area along Tecopa Road (HHSG 2011a, page 5.14-7)."*(1) [Emphasis added.]

It is unclear if this acreage reference is a typo and/or mistake or if it is accurate because of adding additional project elements such as the relocated switchyard, potential temporary housing or additional undisclosed facilities.

Questions

1. Is the reference to a 3,900 acre project site a typo or accurate?

2. If accurate, what other project elements will the additional 700 acres support?

3. What is the projected acreage of the switchyard should it be moved offsite?

4. If there are other design elements that will be utilizing the additional 700 acres, what are they and what are the details related to their uses?

(1), CEC Preliminary Staff Assessment, Waste Management, pg. 797.

NOISE & VIBRATION

“Gentleman....and I use that word loosely....
I will testify for you
I'm a gun for hire, I'm a saint, I'm a liar”

11. NOISE & VIBRATION

This is the second comment submission regarding the Application for Certification for the proposed Hidden Hills Solar Electric Generating System (11-AFC-02). This submission should be considered supplemental too, but not a replacement of, the first submission. All page numbers cited are from the pdf. format and do not represent the actual page numbers specific to the documents.

1. NOISE LEVELS: INCONSISTENCY AND SIGNIFICANCE

Background

Based on the information provided in the CEC Preliminary Staff Assessment, serious inconsistencies have been noted regarding Staff's evaluations and determinations of significance for noise related to the construction and operation of the proposed HHSEGS.

Currently, it is unclear as to why Staff's evaluation of noise and vibration is presenting such contradictory positions or why there is such a "disconnect" between the available data and Staff's interpretations of its impacts. However, what *is* clear is data found within Staff's own text in comparison to the AFC files (and subsequent related documents) indicates there will be significant adverse impacts that dispute Staff's "minimizing" interpretations of that data by a large margin.

Specifically, Staff has declared the only identified source capable of significant adverse noise impacts resulting from the construction and operation of the proposed HHSEGS to those living in the affected zone of impact and project vicinity is *pile drivers.* Staff describes impacts from the pile drivers to the nearest local residence, known as CR1 located approximately 3,500 ft. from Solar Plant II as, "quadrupling in noise level" as described below.

> *"Information from other projects examined by staff shows the noise from pile driving could be expected to reach 104 dBA at a distance of 50 feet. The noise level from pile driving at Solar Plant 2 would thus be projected to reach a level of roughly 65 dBA at CR1 and 57 dBA at M1 (staff calculations). Assuming daytime noise levels at CR1 of 45 dBA and at M1 of 42 dBA, adding pile driving noise to the daytime ambient levels would produce increases of 20 dBA at CR1 and 15 dBA at M1. An increase of 20 dBA represents a quadrupling in noise level, and would likely constitute an annoyance. Since pile driving is only a temporary operation lasting a week or two in the areas near the noise-sensitive receptors, staff believes that limiting pile driving to daytime hours would result in impacts that are tolerable to residents. Staff proposes Condition of Certification NOISE-6, below, to limit this operation to daytime hours."*(1) *[Emphasis added.]*

(1) CEC Preliminary Staff Assessment, Noise and Vibration, pg. 484

The impacts of the noise levels produced from pile drivers to those living in the affected zone of impact are generally dismissed by Staff because they will be; a) temporary in nature and, b) will be limited to daytime hours of operations.

However, what Staff doesn't discuss or analyze is the noise levels from various components required for the operational portion of the proposed project, all of which exceed the noise levels attributed to pile drivers and which will NOT be of a "temporary nature" given the life expectancy of the proposed project.

Below is the Sound Power Levels used by the applicant to report predicted noise levels from key operational components of the proposed HHSEGS(1). To reiterate, all of these components are projected to exceed the noise levels generated by pile drivers. The noise generated from these components will be applicable for approximately 25-30 years.

TABLE 5.7-8
Sound Power Levels Used to Model HHSEGS, dBA

Plant Component	Sound Power Level dBA
Transformers	106
Steam Turbine Generator	111
Boiler Feed Water Pumps	109
Auxiliary Boiler	117
Air Cooled Condenser	112

With respect to any predicted changes in noise or vibration levels due to the applicant's design revisions outlined in the Boiler Optimization Plan, the applicant has report no changes will occur in noise levels as a result of the reconfigurations of the plants as illustrated in the quote below.

> *"The Boiler Optimization does not change the Noise section of the AFC, and no LORS will change as a result of the proposed enhancements. As a result, any potential Noise impacts associated with this optimization will be less than significant."*(2)

As a result, by using Staff's own analysis and evaluations of sound levels and dBA significance from pile drivers to local stakeholders in the affected zone of impact, it can be reasonably predicted that all of the operational components listed above in Table 5.7-8 will cause similar or greater increases in noise levels than the pile drivers. In other words, the operational noise levels of the proposed HHSEGS will at minimum, quadruple the current noise levels of those residing at CR1 and most likely, will be substantially greater than even this predicted impact.

(1) AFC Files, 5.7 Noise, Table 5.7-8 Sound Power Levels Used to Model HHSEGS, dBA, pg. 13
(2) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 10

Consequently, operational noise levels can be considered a significant adverse impact to those in the affected zone of impact that cannot be mitigated. It is not temporary in nature, is projected to operate outside the noise restriction hours of 7:00 a.m. to 7:00 p.m. and will be in effect 24 hours a day, 7 days a week for 52 weeks per year(1).

Despite Staff omitting key analysis of the highest noise generating components of the proposed project and their impacts to the surrounding environment, Staff still reported a +10 dBA increase in sound pressure would occur as a direct result of the proposed projects introduction to the area, even at the minimized levels they did choose to analyze.

It is also noted that Staff was careful not to issue an overall determination of significance regarding the degree of impacts to the affected environment, even at the minimized analysis and neither did Staff provide any proposed mitigation measures as a Condition of Certification to offset the significant and long-term adverse impacts associated with the daily and regular operations of the proposed project that would be in effect for the next 25-30 years.

Questions

1. If Staff recognized and analyzed the significant adverse impacts of noise created from pile drivers, why didn't they perform the same analysis for the key operational components that rank even higher in dBA levels than the pile drivers?

2. If Staff chose to incorporate the sound pressure levels resulting from the key operational components listed in Table 5.7-8, what would be their determinations and conclusions of site-specific noise impacts to the surrounding environment and local residents once regular operations began?

3. Though Staff omitted discussion and analysis of the highest noise generating equipment of the proposed project, they still determined site-specific noise impacts would result in a +10 dBA increase and intrusion to local residents. What is the actual site-specific significance determination of a +10 dBA increase in noise levels to residents in the affected zone of impact?

4. What is the actual site-specific significance determination of a +10 dBA increase in nighttime noise levels to residents in the affected zone of impact?

(1) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 42

2. UNRESTRICTED CONCRETE POURING: NO IMPACT DISCLOSURE

Background

In Staff's recommended Conditions of Certification, Noise-6, Staff allows concrete pouring during hot summer days to be performed outside the "restricted" times of Mondays through Saturdays: 7 a.m. to 7 p.m.(1). The applicant is projecting concrete pouring will occur for up to 12 months(2) and 21 hours per day(3).

Staff never discloses how long the lifting of these restrictions might be in effect and what the noise impacts of this "noisy construction activity" will have to local residents forced to endure an almost 24 hour 7 day a week schedule for possibly up to six months, (i.e., sleep deprivation, sleep interference and its associated psychological impacts such as anxiety/depression, adverse physical effects such as lowered immune responses, decreased job performance, etc.)

While it is most likely Staff will determine the impacts from subjecting local residents to the applicant's 24/7 concrete pouring schedule will be of temporary nature and therefore, less than significant, this "exception to the rule" and its maximum potential duration and corresponding reasonable impacts should be publicly disclosed and if possible, mitigated.

For example, if concrete pouring were only allowed during cooler months, not only would local residents not have to endure the 24/7 noisy construction schedule, the quality and strength of the concrete would be higher due to the longer cure times a cooler climate affords.

Questions

1. What is the maximum projected duration the CPM could lift the noisy construction activity restrictions to allow the applicant to pour concrete for the proposed project?

2. What are the predicted noise levels the activity of concrete pouring will have during daytime and nighttime hours?

3. What are the potential adverse impacts to human health as a result of this "exclusion" for concrete pouring activities outside the proposed time restrictions of other noise construction activities?

4. Why does Staff believe it is appropriate for local residents to have to bear the burden of the applicant's project by being subjected to high nighttime noise levels to meet the applicant's needs versus the communities needs?

5. Why doesn't Staff propose a Condition of Certification to limit concrete pouring to only cooler months so that concrete pouring activities can be restricted in the same manner other noisy construction activities will be?

(1) CEC Preliminary Staff Assessment, Noise and Vibration, pg. 491
(2) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 112
(3) 2012-04-09, Supplemental Data Response, Set 2, TN-64558, Attachment 5.1F-1, Construction Equipment Emission Factors pG. 251

3. OPERATIONAL NOISE RESTRICTIONS: UMITIGATABLE AND INFEASIBLE

Background

Currently, Staff has proposed operational noise restrictions as a Condition of Certification as outlined in Noise-4 as partially quoted below(1). However, as illustrated previously in "Noise Levels: Inconsistency and Significance", the key equipment components of the power plant operations are predicted to be in excess of Staff's proposed noise limit restrictions by a very large margin. Therefore, it is reasonable to assume there is no way this Condition of Certification is either realistic or enforceable.

> *NOISE RESTRICTIONS*
> *"NOISE-4 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that the operation of the project will not cause the noise levels due to plant operation alone to exceed an average of 54 dBA Leq measured at or near monitoring location CR1 and an average of 52 dBA Leq measured at or near monitoring location M1."*

Questions

1. Since the currently available data indicates the proposed project will exceed the proposed noise restriction limits outlined in Noise-4 by a significant margin, what actual mitigation measures are really available that are capable of reducing the noise impacts of the key equipment components that are required to operate the plant?

2. Currently, Staff asserts "unknown" mitigation measures will be implemented until the noise restriction limits of an "average" of 54 dBA and 52 dBA are achieved. What are all the currently known feasible mitigation measures that could be implemented to reduce operational noise impacts of the key equipment components that are listed in Table 5.7-8?

3. If the event the proposed project cannot achieve the proposed noise limits during the operational phase and no mitigation measures are feasibly capable of reducing operational noise to achieve those limits, will Staff include a requirement for remedial action that stipulates the plant must be shut down to prevent excessive adverse impacts to the community? (A similar example can be found in the CEC Preliminary Staff Assessment, Biological Resources, Remedial Action for Significant Impacts to Groundwater-Dependent Biological Resources, Bio-24, pg. 367).

(1) CEC Preliminary Staff Assessment, Noise and Vibration, pg. 489

4. NOISE COMPLAINT PROCESS

Background

In Staff's recommended Condition of Certification, Noise-2, Noise Compliant Process(1), a long list of bureaucratic processes are proposed, as outlined below. However, on closer inspection, it becomes glaringly apparent that the noise complaint process is little more than a shell game designed to give the appearance that "something" is being mitigated, when in fact, nothing is being mitigated.

> *NOISE COMPLAINT PROCESS*
> *"NOISE-2 Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project related noise complaints. The project owner or authorized agent shall: use the Noise Complaint Resolution Form (below), or a functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;*
>
> - *attempt to contact the person(s) making the noise complaint within 24 hours;*
> - *conduct an investigation to determine the source of noise in the complaint;*
> - *if the noise is project related, take all feasible measures to reduce the source of the noise; and*
> - *submit a report documenting the complaint and actions taken. The report shall include: a complaint summary, including the final results of noise reduction efforts and, if obtainable, a signed statement by the complainant, stating that the noise problem has been resolved to the complainant's satisfaction."*

To summarize the complaint process; someone complains, you write a report and document the complaint and you take measures to reduce the noise – if possible. Except, there is no way to reduce operational noise levels without shutting the plants down, so filling out a complaint form or notifying the owner/operator of the disturbance is nothing but an exercise in facility.

For example, in the HBO documentary film, "Hot Coffee"(2), one of the segments reveals how McDonald's corporation had been documenting consumer complaints regarding the extreme temperatures their coffee was being maintained at, temperatures that were repeatedly causing injuries. These complaints numbered in the hundreds (if not thousands) and had been filed from many locations over an extended period of time. McDonald's just kept filing the reports and absolutely nothing was done until someone was finally injured so badly, they were permanently mutilated. Receiving massive personal injury and at great personal expense and hardship, the injured individual sued McDonalds in efforts to reduce the temperature of the coffee. Despite an extensive public relations campaign to smear an old lady's reputation, a jury found McDonalds at fault. As a result, the coffee temperature was finally lowered from 190 degrees Fahrenheit to 170 degrees Fahrenheit, a temperature that still causes third degree burns on contact.

(1) CEC Preliminary Staff Assessment, Noise and Vibration, pg. 488
(2) HBO "Hot Coffee" available: http://www.hbo.com/documentaries/hot-coffee/index.html

Questions

1. How does filing out a complaint form actual resolve or mitigate a noise complaint problem?

2. How can the noise complaint process be deemed viable mitigation over the life of the proposed project when the telephone number that will receive the noise complaints will only be operational for a year after project operations commence?

3. While actions to reduce noise complaints during the construction portion of the proposed project may have some flexibility for resolution, (i.e., don't use the pile driver before 7:00 a.m.), what noise reduction measures would be available for the operational portion of the proposed project (i.e., the Mirror Washing Machines (MWM) between 6:00 p.m. through 4:00 a.m., 7 days a week)? How can actions to reduce significant noise components be implemented if those noises are integral to project operations?

5. COMPLAINTS NO LONGER ACCEPTED

Background

Currently, the CEC Staff is only recommending the applicant be required to have a publicly available telephone number capable of registering operational noise complaints for merely a year, as highlighted below, despite the proposed projects projected lifetime of 25-30 of operations.

> *NOISE-1*
> *"This telephone number shall be maintained until the project has been operational for at least one year."*(1)

Questions

1. While Staff repeatedly cites the 29 months construction period as "temporary in nature", how would Staff describe the availability of only a 12-month operational noise complaint hotline?

2. In the event someone might have an operational noise complaint after the temporary 12-month complaint period, what measures will be available to the public for the other 24-29 years?

3. Why has Staff proposed so many Conditions of Certification measures that heavily weigh in favor of the applicant and simultaneously place the community at large as disproportionately having to bear the burden of the applicant's business operations should the proposed project be approved?

(1) CEC Preliminary Staff Assessment, Noise and Vibration, pg. 488

OPERATIONS

“Because there are no facts, there is no truth
Just a data to be manipulated.”

12. OPERATIONS

This is the second comment submission regarding the Application for Certification for the proposed Hidden Hills Solar Electric Generating System (11-AFC-02). This submission should be considered supplemental too, but not a replacement of, the first submission. All page numbers cited are from the pdf. format and do not represent the actual page numbers specific to the documents.

1. CONFIRMATION OF MEGAWATT PRODUCTION

Background

From the opening of the Executive Summary, throughout multiple sections of the AFC files, the CEC Staff Assessments and the Media Advisory notices of the proposed project, it is hailed and advertised as a "*net 500 MW*" facility.

However, what is never stated is the time frame that 500 MWs would be generated in. I have looked through every relevant document published by the applicant and the CEC Staff and not one of them describes what time frame the 500 MWs of electricity will be generated in.

In exasperation, I finally asked this question during the July 2, 2012, workshop. First, I was told that I was correct in the assumption that the 500 MWs would be generated on a daily basis (I am not sure who confirmed this as I was attending the workshop via Web Ex). However, when I directly asked the applicant, I was told that the 500 MWs would be generated on an hourly basis (at full-load capacity). The applicant also stated that the Boiler Optimization Plan revision made no affect or reduction on the estimated electrical output of the proposed project.

Due to conflicting answers regarding the time frame the 500 MWs of electricity is projected to be generated in at full-load capacity, the applicant needs to provide an answer and it needs to be in writing.

Questions

1. What is the time frame the advertised 500 MWs will be generated in, an hour or a day (24 hour period)?

2. If the 500 MWs would be generated on a daily basis, what does this equate to on an hourly basis at full-load capacity for that day?

3. What changes, if any, did the removal of the large auxiliary boilers via the Boiler Optimization Plan make to the proposed projects hourly, daily and annual electrical production rate in terms of MW's?

2. ANNUAL MEGAWATT PRODUCTION

Background

The proposed HHSEGS advertised it would be a 500 MW generating facility when it originally filed for its Application for Certification. At that time, each solar plant would contain 2 very large natural gas fired auxiliary boilers. However, these boilers were removed in the Boiler Optimization Plan and the applicant described the plants revisions as being more in alignment with the Ivanpah SEGS.

According to the article, "*The World's Largest Solar Thermal Power Plant*"(1) (Kurzweil, May 2012), the Ivanpah SEGS would generate 370 MWs per day. However, during the July 2, 2012, workshop, a discussion regarding the MW generating capacity occurred. The applicant stated that the Boiler Optimization Plan had changed nothing regarding the HHSEGS MW generating capacity.

Though the reconfiguration of the HHSEGS to more closely resemble the Ivanpah SEGS would indicate a reduction in MW production that is comparable to the 370 MW per day, for the moment, it will be assumed that the applicant was correct and the HHSEGS will continue to generate 500 MWs per day.

In the Boiler Optimization Plan, the applicant described approximately how many equivalent full load hours the HHSEGS is projected to generate power on an annual basis as described below.

> *"However, as a solar power plant, the project is not designed or intended for base load generation. The EPS applies only to procurements that entail an annualized capacity factor in excess of 60 percent. With an expected operating capacity that is the equivalent of approximately **3,000 full-load hours per year**, the project's annualized capacity factor will be less than 50 percent. Therefore, the SB 1368 limitation does not apply to this facility."*(2) [Emphasis added]

Based on the currently available data, a 500 MW per day power generation and 3,000 full-load hours per year, the following generalized averages can be reasonably concluded.

500 MWs per day divided by 24 hours = **20.83 MWs per hour**

Dividing 3,000 full-load hours by 365 days per year = **8.2 hours per day on annual average**

8.2 hours per day x 20.83 MWs per hour = **171 MWs per day on an annual average**

Based on this simple averaging, it can be reasonably concluded a more realistic assessment of the HHSEGS's daily MW power generation will equal approximately 171 MWs per day on an annual average, which is about two thirds less (329 MWs) than the 500 MW per day promise.

(1) http://www.kurzweilai.net/the-worlds-largest-solar-thermal-power-plant
(2) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 133.

If the Boiler Optimization Plan has made any reductions in the HHSEGS's ability to generate power and is now more closely aligned with the 370 MW per day production level of the Ivanpah SEGS, obviously there will be a corresponding reduction in the predicted daily annual average of MW production as well.

Questions

1. How many combined MWs for both Solar Plant I & II are projected to be generated per hour at full-load production?

2. On an annual average, what is the projected MW production per day for both Solar Plants I & II?

3. Based on the annual 3,000 full-load hour production level, how many total MWs can be expected to be generated by the HHSEGS on an annual basis?

3. MAINTENANCE ROADS/DRIVE ZONES: CONFLICTING DATA

Background

The Preliminary Staff Assessment is currently presenting conflicting data regarding the proposed projects design for the maintenance roads surrounding the power towers. Resulting impacts from this design discrepancy may be significant and may result in changes to anticipated direct, indirect and cumulative impacts to air quality during operations and over the life of the project. Based on my own review of the AFC files, the original design element was to contain 20-ft drive zones, not the 10-ft. maintenance paths used in the CEC PSA Soils and Surface Hydrology analysis.

<u>Preliminary Staff Assessment, Soils and Surface Hydrology, pg. 571:</u>

- *"10-ft wide dirt heliostat maintenance paths located concentrically around the power plants, placed approximately 152 feet apart."*

<u>Preliminary Staff Assessment, Traffic and Transportation, pg. 622</u>

"Within the heliostat fields, 20-foot wide "drive zones" would be located concentrically around the power block to provide access to the heliostat mirrors for maintenance and cleaning. The drive zones would be located approximately 152 feet apart and would be grubbed to remove vegetation and smoothed."

Questions

8. What is the reason(s) for the differing design elements description and discrepancy?

9. Which one of these design descriptions is currently accurate?

10. Which one of these design elements is incorporated in the AFC files and where is it located?

11. How many roads circle the power towers for each plant under *each* design element?

12. What is the projected total surface in acreage values for *each* of these maintenance road design elements and what is the difference in values between them? Example, 20-ft roads result in 500 acres of disturbance, 10-ft roads result in 1,000 acres of disturbance.

13. Do changes in acreage values for maintenance paths/drive zones result in changes to the number of installed heliostats/mirrors? If so, by how many?

14. What are the differences in impacts to the Low Impact Design element of the proposed project if the 20-ft drive zones are utilized versus the 10-ft maintenance paths?

15. What are the differences between sheet flow, drainage and surface run off between these two design elements?

16. Which of the two designs provide the highest level of environmental protection and/or the least amount of environmental impacts and by what degree?

4. MIRROR WASHING MACHINES (MWM): MILEAGE VERIFICATION DATA

Background

On July 13, 2012, the applicant submitted the following information in response to questions raised at the June 27, 2012, CEC Workship in Bishop, California. In response to AQ-10, the applicant stated the following:

> *"There will be one small mirror washing machine (MWM) and 7 large MWMs per solar field, for a total of 16 MWMs at the facility. Each large MWM is expected to travel about 7.4 miles per day, while each small MWM is expected to travel about 11 miles per day."*(1)

Because there is currently no known source of data that describes the number of drive zones/maintenance paths per Solar Plant, there is no data available to cross-reference and verify the accuracy of the applicant's mileage calculations for the MWMs.

Based on this new information, the large MWM's can be expected to travel 51.8 miles per day collectively and will travel 725 miles in a 14-day period per Solar Plant to meet the applicant's objective of cleaning all the mirrors contained in the Far From Tower (FFT) zones. The small MWM's will travel a combined total of 22 miles per day equaling 308 miles in a 14-day period per Solar Plant for the Near Tower (NT) zones.

All combined, the applicant projects approximately 1,033 miles will be traveled by the large and small MWMs within a 14-day period per Solar Plant. When the mileage per Solar Plant is combined, the mileage totaled for all 16 MWMs equals 2,066 miles per 14-day period.

(1) Data Response, Set 5 (Responses to Air Quality Workshop Questions), pg. 13

The proposed project site is reported to be 5.1 square miles.

Questions

2. What data did the applicant use to support the determination that each large MWM would travel about 7.4 miles per day and each small MWM would travel about 11 miles per day and where is this data located?

5. PROJECT OBJECTIVES: DATA SUPPORT

Background

The applicant has described one of the project objectives is to:

> *"To use BrightSource's proprietary technology in another utility-scale project, further proving the technical and economic viability of the technology."*(1)

However, this technology has yet to be proven at the applicant's Ivanpah plant as it is still under construction. Additionally, during a workshop discussion, the applicant made a reference to its Israel operational data, to which Staff responded with something like, "*We keep hearing about the Israel data but when are we going to see this data?"*

As for the economic viability of the applicant's technology, despite thousands of pages of information and data submitted by applicant, Staff and other experts employed to analyze the proposed project, nowhere is any information or data available that clearly and accurately describes the economic viability, feasibility, end electrical production costs per MW or kilowatt, or end consumer ratepayer costs.

Questions

1. What data has the CEC Staff seen that supports the applicant's assertion that this technology is proven and where is it located for review?

2. If the CEC Staff desired to review the "Israel data", why didn't they request it be provided during the discovery period?

3. What evidence, data and facts support the applicant's assertion that their "*utility scale proprietary technology*" is technically viable?

4. What evidence, data and facts support the applicant's assertion that their "*utility scale proprietary technology*" is economically viable?

(1) AFC files, Alternatives, pg. 1.

SOCIO-ECONOMICS

“I can get you any result you like
What's it worth to ya?”

13. SOCIO-ECONOMICS

This is the second comment submission regarding the Application for Certification for the proposed Hidden Hills Solar Electric Generating System (11-AFC-02). This submission should be considered supplemental too, but not a replacement of, the first submission. All page numbers cited are from the pdf. format and do not represent the actual page numbers specific to the documents.

1. SOCIO-ECONOMIC IMPACTS: GENERAL

Background

After reviewing all the various fiscal and socio-economic analysis created by applicant and the CEC Staff, the description that best fits the conclusions reached from all the modeling, assumptions, projections and multiplier affects used to substantiate the proposed projects "positive" benefits read more like a *fairy tale* versus a reality based assessment.

Overall, the first issue that becomes crystal clear to those who are actually familiar with the proposed project site is, whoever developed the fiscal and socio-economic analysis for the CEC Staff, *isn't*.

The second issue that becomes glaringly obvious is, the conclusions reached regarding fiscal and socio-economic impacts were created by computer models and from the looks of it, these must have been the same models responsible for creating the catastrophic paper fantasy's of Wall Street and the rampant deficits and bankruptcy's now consuming California.

With respect to a more site-specific discussion, very little private land is available within the vicinity of the proposed project or Inyo County in general. Consequently, the majority of the "assumed" revenue generations induced by opportunities for additional businesses and services to be attracted to the area are, at best, minimal.

Inyo County itself faces very limited opportunities for revenue generation due to the amount of federally controlled land within its jurisdiction. Because of this, opportunities for increased funding to improve public services and the infrastructure needed to enhance economic growth is extremely limited as well.

The residents of Inyo County are being asked to bear the burden of forfeiting limited resources to support the proposed project, such as land, water, wildlife, wildlife habitat, and cultural, historic, visual and aesthetic resources for economic opportunities and growth that will predominately be realized by Nevada.

In exchange, Inyo County residents are failing to see any improvements within their own services or infrastructures such as the CEC Staff recommendation to deny funding for road improvements, maintenance or many other critical infrastructure needs anywhere outside the area most beneficial in serving the applicant's needs exclusively. In short, residents of Inyo County are being unreasonably asked to forfeit valuable and limited resources for little to nothing in return.

On a broader scale, the general populace of California will be equally forfeiting finite public resources for minimal benefits as well. Though a significant portion of the revenue that *is* projected to be generated for California's benefit versus Nevada (5% to 95%, respectively) flows to State coffers versus County coffers, the people themselves will merely realize insignificant reductions in their overall air quality *with no guarantee they will even receive the electricity being generated by the proposed project or, even if they do, that the cost of that electricity will be reasonably and beneficially priced.*

Finally, almost all the touted benefits projected to reach California arise almost exclusively during the construction phase of the proposed project, a phase that CEC Staff repeatedly points out with respect to its 29 months of adverse impacts as merely "temporary in nature".

From a fiscal and socio-economic standpoint, the approval of the proposed project results in short term gain at long-term expense and honestly, the American people are fed up with having to bear the burdens of bailing out both public and private sectors alike as a result of short sighted, ill conceived, one sided, deceptive, and fraudulent schemes fraught with hidden costs that are only revealed long after everyone has made their fortune and disappeared, leaving the public to live with the mess.

2. UNSUPPORTABLE ASSUMPTIONS & BENEFITS

Background

In the CEC Staff's fiscal analysis, some of the projected positive benefits to Inyo County if the proposed project is approved are generally described in the quotes below.

> *"First, developing the solar project will have an indirect, but positive, effect on complementary services in the vicinity. Businesses en route to the project sites, such as convenience stores and gas stations, stand to benefit from increased traffic moving through the area. A higher sales volume for these entities will lead to higher tax revenues for the County's share of the sales tax as well as other taxes (e.g., gasoline taxes). The value of these additional revenues with the County is unknown, and would be substantially larger during the construction period than during the longer operational period."*(1)

(1) CEC Staff's Socioeconomic and Fiscal Impacts of the HHSEGS on Inyo County, pg. 29.

"The project will generate additional sales tax revenues for the County because the newly employed local workers will be spending some of their additional disposable income locally on various goods, such as food, appliances and clothing."(1)

Questions

1. Where are the "*complimentary services located in the vicinity*" actually located in Inyo County?

2. Where are the "*businesses en route to the project sites, such as convenience stores and gas stations"* actually located in Inyo County that this analysis is referring too?

3. What, specifically, are the "entities" referred to and where, specifically, can Inyo County expect to receive "*a higher sales volume for these entities will lead to higher tax revenues for the County's share of the sales tax as well as other taxes (e.g., gasoline taxes*)"?

4. If the "*value of these additional revenues with the County is unknown*", then how can Staff conclude they "*would be substantially larger during the construction period than during the longer operational period"* since they have no bases or threshold to make that determination from?

3. DIRECT VERSUS INDUCED

Background

Much of the reported benefits to Inyo County and California in general are concluded after factoring, multiplying, and projecting indirect "ripple affects" induced by the what can be reasonably foreseen as a direct result of the proposed project's introduction in the area. However, once the superficial veneer is stripped from the glowing pictures that are painted through the use of these "induced" affects, the reality of what is really going to happen because a lot more apparent. Here is one example, as illustrated by the quote below.

"This spending is expected to directly produce about 32 jobs within Inyo County, and induce another 77 positions."(2)

As already previously stated, very little private land is available within the vicinity of the proposed project, so opportunities for additional businesses and service to be attracted to the area are minimal and will stay that way over the life of the proposed project. Additionally, there are no businesses of any sort in California for at least 25 miles and those only provide the most minimal services as well.

(1) CEC Staff's Socioeconomic and Fiscal Impacts of the HHSEGS on Inyo County, pg. 28.
(2) CEC Staff's Socioeconomic and Fiscal Impacts of the HHSEGS on Inyo County, pg. 30.

The only other reasonably foreseeable sector for job creations would be within the County departments and services themselves. Yet almost every nominal position and funding level the County said they needed, the CEC Staff has recommended be denied. In short, the 77 induced jobs won't be created from the public sector either.

Another significant and related concern regarding the CEC Staff's recommendations to "hamstring" County services and involvement is, Staff's recommendations is assuring the County will most likely lack sufficient funding to provide any independent oversight or be capable of funding personnel or services that could enforce accountability should the applicant or subsequent owners fail to be "good corporate citizens".

The following accounting of how the CEC Staff has evaluated the impacts of the HHSEGS to Inyo County is my favorite discussion within the fiscal and socioeconomic analysis. Why? Because it clearly shows both the bias of Staff towards the applicant as well as outlining the reasonably foreseeable results to the County should this recommendation be approved.

> Assessor
> *"The County projected that the average annual cost for the Inyo County Assessor's Office would be approximately $120,000……These costs largely represent legal costs that would occur on an ongoing basis following the completion of construction. For the HHSEGS, staff estimates that ongoing annual legal costs to the Assessor's Office could be $50,000 (CEC, 2012d). <u>However, given that the majority of these costs are for adversarial legal proceedings, it would be presumptive to require BSE to pay the County's legal fees prior to the determination of the outcome of proceedings that may not even occur."</u>* (1) [Emphasis added.]

I was attending the workshop when this discussion occurred and heard the Inyo County Assessor describe what has historically happened when assessment time comes.

Multinational, industrial giants like BSE/Beltech are armed with a full time team of lawyers at their beck and call. Their job is to save the company money. Their job is to find legal and financial loopholes. Their job depends on their performance and ability to serve the corporation's interests versus the public interest. And historically, they have been very, very good at their job.

What keeps these corporations from running completely amuck (at least in theory)? The public sector, also known as the government, charged with protecting the public interests. They develop laws to balance interests and fund agencies and departments to enforce that balance.

While the Inyo County Tax Assessor described his historical experiences in relation to tax assessments and the recent renewable energy explosion, CEC Staff completely discounted his experience or what he had to say.

(1) CEC Staff's Socioeconomic and Fiscal Impacts of the HHSEGS on Inyo County, pg. 20.

Instead, CEC Staff viewed the applicant as a stand-alone corporate citizen who has yet to create a track record of questionable or adversarial evidence, a clean slate if you will, that historical trends, experience and reasonably foreseeable outcomes should not be applied too.

While Staff "*presumed*" protection of BSE, they failed to equally and objectively apply this presumption towards protecting the public interest, which is represented by the County. If they had, it might look something like, "*it would be presumptive to assume the County will not have to pay for adversarial legal proceedings, given the nature and structure of a multi-national corporation such as Bright Source Energy/Bechtel."*

While the above example is perhaps the clearest at illustrating the one-sided bias presented in the Socio-economic and Fiscal Impact report, it is repeated throughout Staff's fiscal evaluations and recommendations; there will be little to no new jobs, little to no new funding, and little to no new infrastructure growth for the County after operations begin.

So make hay while the sun shines guys, cause you are going to need that construction money to go a long way over the next 25-30 years!

Questions

1. Would Staff consider allocating Inyo County the money it has requested for tax assessment but provide a stipulation that if the applicant *doesn't* initiate adversarial legal proceedings, it can be refund? Wouldn't this solution protect both BSE/Bechtel's interests *and* the public interest plus provide incentive to the applicant and/or future owners to not initiate legal proceedings unless they really felt it was warranted?

2. With respect to the "77" induced jobs, where and what sector can it be reasonably foreseen that these jobs will be created in?

3. How does Staff's recommended reductions, cuts and revised budgets serve the public interest or the County?

4. LEFT OUT

Background

The following quote below indicates some of the factors the CEC Staff used in determining increased revenues to Inyo County should the proposed project be approved.

> *"For sales taxes, both the project construction costs and the indirect supply chain expenditures have been included in the calculation. Left out are the fines, licenses and special taxes such as transient occupancy, as well as the sales and property taxes from induced economic activity because those require a wider and detailed modeling of County economic activity."*(1) [Emphasis added.]

(1) CEC Staff's Socioeconomic and Fiscal Impacts of the HHSEGS on Inyo County, pg. 26.

Based on the above description of what impacts local residents can expect but Staff didn't want to model or disclose, the proposed project will result in:

- Increases in fines (unless Staff is projecting this to be result of the applicant's activities).
- Increases in license fees.
- Increases in special taxes (such as those levied by the SICFPD).
- Increases in property taxes.

Questions

1. Why did Staff leave out an analysis of all the potential adverse impacts to local residents should the proposed project be approved?

2. Why did Staff only report on the potential advantages of the proposed project to current residents in the project vicinity but ignored reporting or disclosing the potential disadvantages?

3. If Staff recommends ***not*** funding infrastructure improvements, ***not*** funding increases in County services, and ***not*** funding personnel required for enforcement activities, where are the pubic benefits of the proposed project and how are the local residents interests even remotely being served?

SOILS & SURFACE WATERS

"Because there is no wrong, there is no right
And I sleep very well at night."

14. SOILS & SURFACE WATERS

This is the second comment submission regarding the Application for Certification for the proposed Hidden Hills Solar Electric Generating System (11-AFC-02). This submission should be considered supplemental too, but not a replacement of, the first submission. All page numbers cited are from the pdf. format and do not represent the actual page numbers specific to the documents.

1. ENVIRONMENTAL REVIEW: CIRCUMVENTING CEQA

Background

The Preliminary Staff Assessment section of Soils & Surface Hydrology contain some of the most critical elements of the planning process regarding the suitability of the proposed project site for reasonable and feasible construction and operations of the HHSEGS. Unfortunately, some of the key elements related to examining whether or not the site is actually suitable for the proposed project have been at best, superficially examined and at worst, omitted completely.

The quote below was taken from the CEC Preliminary Staff Assessment, Soils & Surface Hydrology, Storm Water Damage Monitoring and Response Plan, Soils-5.D. It was inserted to describe future planning guidelines regarding unknown factors surrounding the impacts of flooding on heliostat assemblies located on the proposed project site. However, I have found it relevant to the majority of the Soils and Surface Water section and many of the other sections in Preliminary Staff Assessment as well. This is especially true in relation to how "mitigation measures" are being hailed as minimizing the proposed projects significant impacts – only to find out that those same mitigation measures merely propose to *finally* explore the project's impacts and allow the applicant and CEC to develop resolutions behind closed doors and circumvent CEQA.

> *"Inspection, short-term incident response, and long-term design based response may include activities both inside and outside of the project boundaries. For activities outside of the project boundaries the owner shall ensure all appropriate environmental review and approval has been completed before field activities begin."*(1)

Questions

1. Why should the public believe the CEC and applicant would "*ensure all appropriate environmental review has been completed*" at any other stage of the proposed project if they won't even do it now?

2. How does it serve the public interest to develop and analyze data regarding potentially significant impacts of the proposed project only after the proposed project is approved?

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 604

3. How are “mitigation measures” reducing the project’s impacts and meeting CEQA requirements if those impacts aren’t even disclosed, analyzed or vetted until after the proposed project is approved?

4. If only general and superficial data and/or analysis are substituted for site-specific data and critical analysis, how can the proposed project site be credibly deemed “suitable” or “feasible”?

2. SOILS: GENERAL

Background

Only generalized data regarding soil types of the proposed project site is currently available - despite the fact that this subject matter should be considered one of the most critical components of analyzing the suitability and feasibility of the proposed project site.

> *“Detailed Natural Resources Conservation Service (NRCS) soil survey data is not available for the project site; therefore the applicant used U.S. General Soil Map information to estimate soils properties.”*(1)

The map on the following page was used by the CEC Staff to illustrate soil properties related to water resources in the project vicinity(2). This map is almost one hundred years old and most likely reflects the utter lack of current knowledge regarding the soil properties in and around the proposed project site. However, due to its acknowledgement of the high degree of clay soils in the proposed project vicinity, it might be considered more accurate than the U.S. General Soil Map’s soil composition breakdown that describes only 10% of the soil subcomponents as being comprised of clay but at least 25% of all soil types are described as having high run off potential that consists chiefly of clay soils.

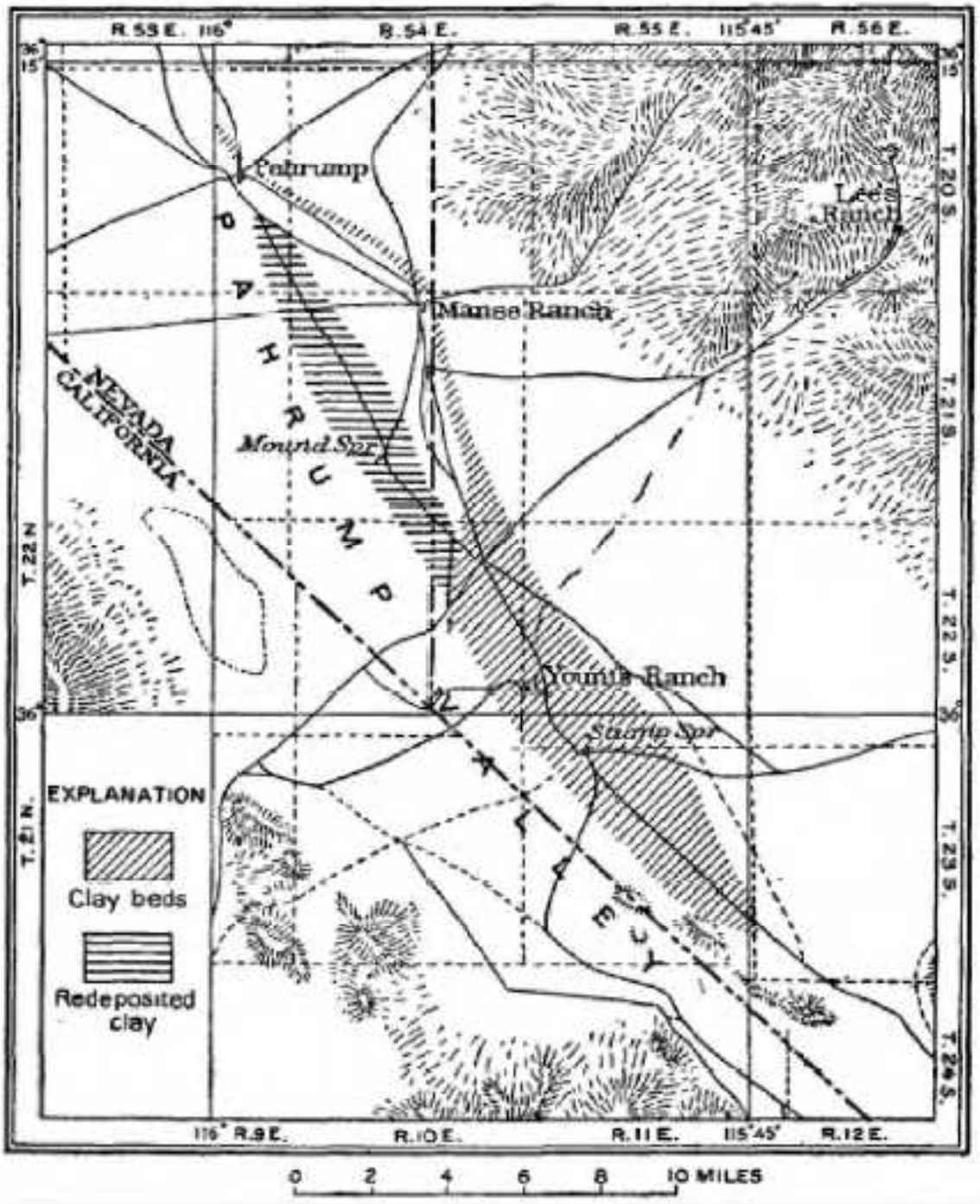
> *“High runoff potential. Soils having very slow infiltration rates (0 – 0.05 inches per hour) when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material.”*(3)

Additionally, the Preliminary Geotechnical Report compiled by the applicant in 2011 contained the most current data and evaluations available of soil properties related to the proposed project sites suitability. All of its key findings and warnings were ignored by the CEC Staff in the Preliminary Staff Assessment.

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 567
(2) CEC Preliminary Staff Assessment, Water Supply, pg. 896
(3) CEC Preliminary Staff Assessment, Soils and Surface Waters, Table 3; U.S. General Soil Map: Soil Unit S5740 Sub-Components, pg. 568

WATER SUPPLY - FIGURE 22
Hidden Hills Solar Electric Generating System (HHSEGS)

TA significant exposure of clay bedding is observed around the Stump Springs region. The clay bedding is said to reach its maximum thickness of 50 feet near Stump Springs .



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION
SOURCE: (Grover, 1919).

To reiterate what I have already tried to get the CEC Staff to acknowledge, analyze and address, below are quotes taken directly from the HHSEGS AFC Project data.

> *"Shallow foundations, concrete slabs-on-grade, exterior concrete flatwork, pavement sections, and other improvements will need to be founded on a zone of adequately placed and compacted structural fill. The composition, thickness/depth, lateral extent, and compaction of structural fill will need to be addressed as part of a design-level geotechnical evaluation."*(1) [Emphasis added.]

> *"Expansive soils can be mitigated by removing the soil and backfilling with non-expansive soil, instituting chemical stabilization of the soil, or constructing a foundation treatment that resists uplift of the expansive soil. Soil types present in the central part of the solar field site may exhibit expansive properties potential; specifically in the areas of the site underlain by lacustrine deposits (this includes the proposed solar site area). A design-level geotechnical investigation will be performed to further determine the expansive soils potential for the site and present appropriate mitigation recommendations."*(2) [Emphasis added.)

> *"Due to the relatively loose and moisture sensitive nature of some of the native soils on site, adequate surface drainage should be provided to reduce ponding and infiltration of water into the subsurface soils, as appropriate. Surface runoff should be intercepted, collected, and not permitted to flow or infiltrate into subsurface soils adjacent to or beneath structures."*(1) [Emphasis added.]

> *"The results of our subsurface explorations and laboratory tests indicate the presence of soils with high porosity and high collapse potential. These soils are prone to settlement and should be considered unsuitable for support of structures and improvements in their existing condition."*(1) [Emphasis added.]

(1) HHSEGS AFC Files, Appendix 5.4A, Preliminary Geotechnical Report, pg. 18
(2) HHSEGS AFC Files, Section 5.4, Geologic Hazards and Resources, pg. 10

And this is what "*prone to settlement*" and "*unsuitable for support of structures and improvements*" looks like in real world terms. Notice how the tires had been removed, which clearly indicates it had been in a state of storage, not movement. Also, this van sunk on "high ground", meaning no water actually reached the vehicle – it just surrounded it and soaked the soil enough to cause the van to sink.

Photo of van in storage at a residence in Charleston View, approximately 0.5 miles from the proposed project boundary. Photo taken 4/25/12.

Now pretend the van in the photos is a heliostat assembly, multiply it up to 170,000 times and then explain why this should not be considered significant enough to critically examine in order to determine if the site is even suitable or if the project is even feasibility in this area ***prior to approval***. Moving forward without critically examining site-specific soil data to determine suitability of the proposed project site may result in serious and significant impacts that may have multiple consequences.

Questions

1. Why didn't the CEC Staff address the issues associated with potential soil unsuitability at the proposed project site in the Preliminary Staff Assessment as outlined in the Preliminary Geotechnical Report?

2. Given the potential gravity of the lack of site suitability or the possibility that the proposed project may be infeasible based on the findings of the Preliminary Geotechnical Report, why wouldn't the applicant INSIST on obtaining a Final Geotechnical Report before moving forward with the AFC process or at any time since?

3. Since heliostat assembly's are structures and the Preliminary Geotechnical Report warned that "*surface runoff should…..not [be] permitted to flow or infiltrate….beneath structures*", what is going to happen to the thousands of heliostats that will be positioned in the South, Southwest and Western portions of the project site that are in an acknowledged flood zone and subjected to high intensity stormwater and surface runoff?

4. Since the Preliminary Geotechnical Report warned of soils with "*high collapse potential*" as is clearly illustrated by the photo of the van, what is going to be the reality behind the applicant's "fool proof" highly advanced computer controlled "Glint and Glare Heliostat Positioning Plan" when the heliostat's shift and sink just as the van did due to water infiltration causing soil collapse?

5. If heliostat assemblies shift, sink and/or collapse due to a rain event, how will this impact the heliostat's ability to transfer energy/heat to the power towers and the "renewable" portion of the proposed projects energy production?

3. ALLUVIAL FANS: SIGNIFICANT IMPACTS

The proposed project site is located at the base of a large alluvial fan system extending from the Spring Mountain Range. It is distinguished by a series of hills, gorges, small canyons, channels, and large and small washes known as Hidden Hills, which occur above and adjacent to the site. This unique landscape has occurred over time due to a small but noticeable shift in elevation "above" the proposed site and due to repeated, high speed flooding of waters moving from the alluvial fans to the dry lake bed located to the west/north west.

For a comprehensive photo display illustrating the local landscape adjacent to the proposed project site, please review Appendix I, Hidden Hills and Local Topography.

With respect to the proposed project's siting being placed between this alluvial fan system and the dry lake bed, which the majority of the Pahrump Valley's storm water runoff flows to, the CEC Staff has devoted only minimal analysis in efforts to determine whether the site can be considered either suitable or feasible based on its location in the Pahrump Valley as a whole.

Ironically, though Staff *has* analyzed it enough to determine the potential impacts may be significant, they then abandon any further attempts to investigate the issue. Staff then determines that proposed mitigation measures will reduce those impacts when in fact, they merely stipulate impacts will only be modeled, reviewed and mitigated *after* project approval.

> *"Although these BMPs are generally effective on most projects, staff considers that the proposed project **does** constitute an unusual circumstance. The proposed project is of a very large scale compared to other projects constructed on active alluvial fans in the past. Although modeling and calculations can be used in an attempt to estimate future scenarios and provide a basis for structural design parameters, these methods are based on assumptions and projections that are imprecise and untested in this environment. Should these assumptions and calculations be inaccurate, the consequences of flash flood damage or modified sedimentation and erosion rates may be significant. Staff proposes Condition of Certification SOILS-5 requiring a Storm Water Damage Monitoring and Response Plan to reduce these potential impacts."*(1) [Emphasis added.]
>
> STORM WATER DAMAGE MONITORING AND RESPONSE PLAN/SOILS-5:
> ***"****…….The analysis of the storm event and resulting heliostat stability will be provided within a Pylon Insertion Depth and Heliostat Stability Report to be completed by the applicant. This analysis will incorporate results from site-specific geotechnical stability testing, as well as hydrologic and hydraulic storm water modeling performed by the applicant. The modeling will be completed using methodology and assumptions approved by the CPM. The project owner shall also develop a Storm Water Damage Monitoring and Response Plan to evaluate potential impacts from storm water….."*(2) [Emphasis added.]

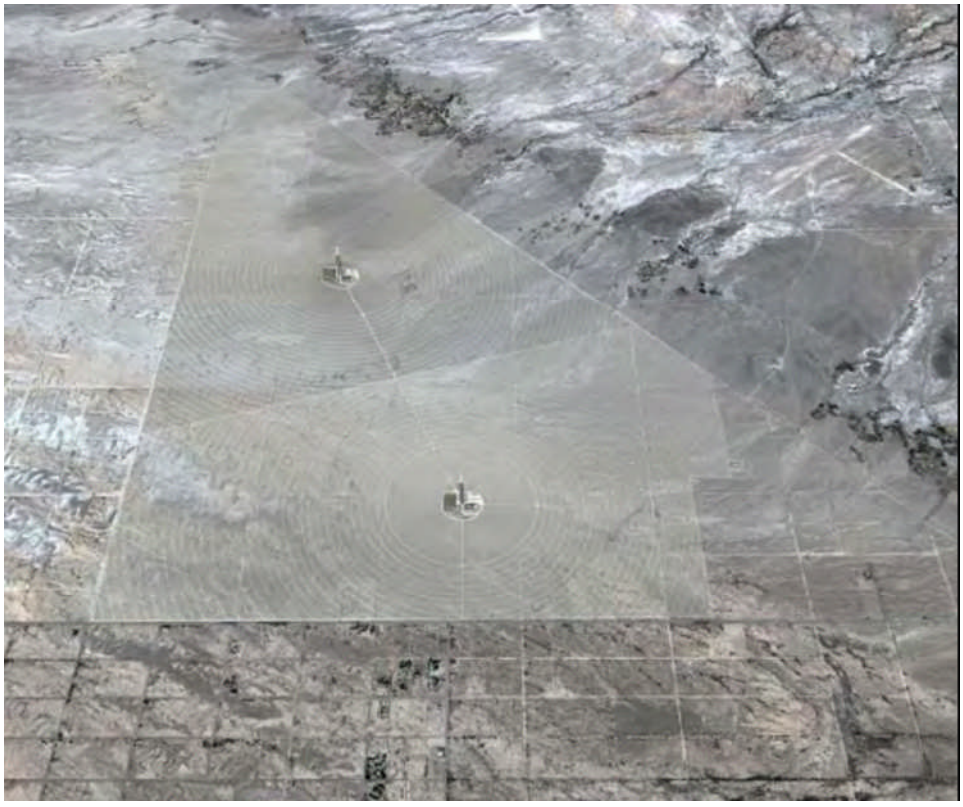
Of additional concern is Staff's conflicting description's of the value of modeling storm water impacts. First, they describe the modeling and calculations as "*based on assumptions and projections that are imprecise and untested in this environment"*. Staff then turns around and recommends modeling be completed to determine potential impacts and mitigation measures for the site, but again, *only after project approval*.

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 583
(2) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 602

When stormwater modeling impacts were performed for the applicant's Ivanpah project, the BLM had found potential impacts could be "catastrophic". (Please see the HHSEGS submission to the CEC, "Preliminary Comments, Technical Analysis and Recommendations": Heliostat/Mirrors, Stormwater Management & Heliostat Catastrophy(1) for a more complete description of what this alluvial fan modeling concluded.)

Let me repeat this so there is no question as to its importance. The modeling not only found the potential impacts "significant", it found those impacts to potentially be CATASTROPHIC. Given the obvious and active storm water flows that are readily apparent in the Pahrump Valley and surrounding the proposed project site, the potential "catastrophic" impacts noted at the Ivanpah site may be even greater at the Hidden Hills project site.

Finally, while modeling and assumptions may be "imprecise and untested", just looking around at the topography of the Pahrump Valley and where the proposed project site is located should give a pretty good indication that this location may have some serious problems associated with it. This includes making viable operations unfeasible as well as causing large -scale environmental damage that will most likely be impossible to "fix" after the fact.



Source: Cover photo from Hidden Hills Solar Electric Generating System (HHSEGS), Preliminary Staff Assessment, May, 2012.

(1) "Cindy MacDonald's Preliminary Comments, Technical Analysis and Recommendations" to CEC regarding Hidden Hills Solar Electric Generating System available at: http://www.energy.ca.gov/sitingcases/hiddenhills/documents/others/2012-03-09_MacDonald_Comments_TN-64464.pdf

Questions

1. Given the fact that the CEC Staff has already identified that the location of the proposed project site near the bottom of an alluvial fan system may result in "significant" impacts, why have they not pursued developing modeling of impacts during the CEQA equivalency process to determine site suitability and project feasibility?

2. How is the modeling of potential storm water impacts to the proposed project site *after* the project's approval considered a mitigation measure that reduces project impacts?

3. How can the current approach taken by the CEC Staff to determine potential impacts and develop mitigation measures to protect the environment from storm water impacts only *after* project approval be defined as "conservative" or meet CEQA equivalency standards?

4. Could modeling of site-specific storm water impacts also yield a potential "catastrophic" conclusion such as the Ivanpah site modeling results did? Could impacts be even greater at the Hidden Hills site?

5. What if the site-specific storm water modeling impacts reveals the HHSEGS project site is unsuitable for the proposed project but it has already been approved?

6. Does it matter if site-specific storm water modeling reveals the HHSEGS project site is not suitable or feasible and cannot be reasonably mitigated because project approval is already a foregone conclusion, regardless of its impacts to the environment?

4. HELIOSTAT STABILITY REPORT & SITE SUITABILITY: CIRCUMVENTING CEQA

Background

One of the primary purposes of site-specific storm water modeling in relation to the proposed project site is to attempt to determine potential impacts to heliostat assembly's and mirrors and adequately assess potentially significant impacts to the environment that may result in and around the project site should the project be approved.

One of the primary purposes of developing a site-specific comprehensive Geotechnical Report is to determine if siting and soils are reasonably compatible as to ensure site suitability and feasible operations.

As previously outlined in the "Soils: General" comments, site specific soils may result in heliostat/mirrors shifting, sinking and/or collapsing in the event soils becoming saturated due to rain events, storm water runoff and/or flooding.

Staff has already identified some very significant issues that will most likely occur at the proposed project site, as illustrated in the quotes below - but then neglected to carry them forward to their reasonably foreseeable conclusions.

"Although the retention area would not impact the proposed structures, repeated flooding would occur among the heliostats in the solar fields, especially those located on the west side of the proposed site."(1) [Emphasis added.]

"Staff also notes that long-term sediment transport to this retention area could alter the expected storage capacity at the base of the road and could increase the size of inundated onsite area over time."(1) [Emphasis added.]

"Also, the west perimeter road may experience potential damage from the weir flow over time. In addition, standing water onsite might have impacts to biological resources."(1)

The reason Staff was able to avoid carrying reasonable conclusions forward is because all of the significant issues outlined above will only be disclosed and addressed after the proposed project is approved and during the development of the Pylon Insertion Depth and Heliostat Stability Report as outlined in the proposed Condition of Certification Soils-5 quoted below.

"Staff acknowledges the applicant has completed a thorough hydrologic analysis, but notes that modeling is imprecise and untested in this desert environment. Should these assumptions and calculations be inaccurate, the consequences of flash flood damage or modified sedimentation and erosion rates may be significant. To reduce these potential impacts, staff proposes Condition of Certification SOILS-5 requiring an analysis of storm events and heliostat stability as part of a Pylon Insertion Depth and Heliostat Stability Report….."(1) [Emphasis added.]

Elements of the proposed projects impacts to the environment to be disclosed and analyzed "later" include:

STORM WATER DAMAGE MONITORING AND RESPONSE PLAN

"SOILS-5: The project owner shall ensure that the heliostats are designed and installed to withstand storm water scour that may occur as a result of a 100-year storm event. The analysis of the storm event and resulting heliostat stability will be provided within a Pylon Insertion Depth and Heliostat Stability Report to be completed by the applicant. This analysis will incorporate results from site-specific geotechnical stability testing, as well as hydrologic and hydraulic storm water modeling performed by the applicant. The modeling will be completed using methodology and assumptions approved by the CPM. The project owner shall also develop a Storm Water Damage Monitoring and Response Plan to evaluate potential impacts from storm water, including heliostats that fail due to storm water flow or otherwise break and scatter mirror debris on to the ground surface."(2)

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 588
(2) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 602

The Storm Water Damage Monitoring and Response Plan, Section D, also provides an extensive and detailed list of just what will be developed, evaluated and revealed after project approval – but not before - some of which is included in the quotes below.(1)

*"*The Storm Water Damage Monitoring and Response Plan shall be submitted to the CPM for review and approval and shall include the following:

- *Detailed maps showing the installed location of all heliostats within each project phase;*
- *Description of the method of removing all soil spoils should any be generated;*
- *Each heliostat should be identified by a unique ID number marked to show initial ground surface at its base, and the depth of the pylon below ground;*
- *Minimum Depth Stability Threshold to be maintained of pylons to meet long-term stability for applicable wind, water and debris loading effects;*
- *Above and below ground construction details of a typical installed heliostat;*
- *BMPs to be employed to minimize the potential impact of broken mirrors to soil resources;*
- *Methods and response time of mirror cleanup and measures that may be used to mitigate further impact to soil resources from broken mirror fragments; and*
- *Monitoring, documenting, and restoring the downstream playa surface when impacted by sedimentation or broken mirror shards.*

A plan to monitor and inspect periodically, before first seasonal and after every storm event:

- *Security and Tortoise Exclusion Fence: Inspect for damage and buildup of sediment or debris*
- *Heliostats within Drainages or subject to drainage overflow: Inspect for tilting, mirror damage, depth of scour compared to pylon depth below ground and the Minimum Depth Stability Threshold, collapse, and downstream transport.*
- *Drainage Channels: Inspect for substantial migration or changes in depth, and transport of broken glass.*
- *Constructed Diversion Channels: Inspect for scour and structural integrity issues caused by erosion, and for sediment and debris buildup.*
- *Downstream Playa Surface: Inspect for changes in the surface texture and quality from sediment buildup, erosion, or broken glass.*

Short-Term Incident-Based Response:

- *Security and Tortoise Exclusion Fence: repair damage, and remove built-up sediment and debris.*
- *Heliostats: Remove broken glass, damaged structure, and wiring from the ground, and for pylons no longer meeting the Minimum Depth Stability Threshold, either replace/reinforce or remove the mirrors to avoid exposure for broken glass."*

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 603/604

While it is admittedly impossible to model, foresee and evaluate every single heliostat/mirror assembly placement with respect to storm water, flooding and soil saturation over the life of the proposed project, a reasonable attempt to assess these critical components in relation to site suitability and feasibility should be performed during the AFC/CEQA equivalency process. Staff has already identified both the methods and the means to do just that as outlined in the recommended Pylon Insertion Depth and Heliostat Stability Report, the Storm Water Damage Monitoring and Response Plan and the need for incorporating data from a comprehensive Final Geotechnical Report.

With respect to available modeling tools, Staff has also identifies at least two computer programs that may be of assistance in determining impacts regarding alluvial fans, flooding and local scour as outlined in the quotes below.

> *"STORM WATER DAMAGE MONITORING AND RESPONSE PLAN*
> *SOILS-5: SECTION B: Determination of potential total pylon scour depth:*
> - *Potential channel erosion depths will be determined using the calculated design flows, as determined in A above, combined with the methodology presented in "FAN, An Alluvial Fan Flooding Computer Program, FEMA, 1990."*
> - *Potential local scour will be determined using the calculated design flows, as determined in A above, combined with the Federal Highway Administration (FHWA) equation for local bridge pier scour from the FHWA 2001 report, "Evaluating Scour at Bridges."*(1)

Questions

1. Despite Staff acknowledging the potentially significant environmental impacts of the heliostats/mirrors in relation to generally known site-specific issues, why hasn't Staff or the applicant developed any of the aforementioned reports to insure project site suitability, feasibility and reasonably foreseeable environmental impacts, degradation and/or damage?

2. Specifically, how many heliostats/mirrors structures would have to be impacted by storm water inundation, flooding and/or standing water to be considered potentially significant? Significant? 100? 1,000? 10,000? 100,000?

3. What is number of heliostats/mirror structures impacted by storm water inundation, flooding and/or standing water that would render a determination of unmitigatable impacts to the proposed project site?

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 603

4. How many heliostat/mirrors could be potentially carried offsite due to a significant storm event before they were deemed a significant adverse impact to the environment and surrounding property owners?

5. How much broken glass could be littered around the site before those impacts would be deemed potentially significant or significant? 100 lbs? 1,000 lbs? 10,000 lbs? 100,000 lbs?

6. How much broken mirror glass could potentially be carried offsite before it would be deemed a significant adverse impact to the environment and surrounding property owners? 100 lbs? 1,000 lbs? 10,000 lbs? 100,000 lbs?

7. Given the fact that Staff already projects broken mirrors and mirror shards will be an inseparable part of the proposed project, who has analyzed the potential glint and glare impacts of this debris - either in the heliostat assemblies or dispersed throughout the landscape - in relation to motorists, recreational viewers, and local residents?

5. IMPERVIOUS SURFACES

Background

Throughout the course of the Soils and Surface Waters section of the HHSEGS Preliminary Staff Assessment, Staff routinely discusses the impacts of impervious surfaces with respect to runoff, volume, rate, velocity and resulting impacts to storm water, flooding, channels, water resources, and onsite operations as highlighted below.

> *"Increasing impervious surface areas resulting in increased amount of storm water runoff volume and rate. This can cause substantial flooding, erosion, and/or siltation, which could impact water resources."*(1)

The following subsections below discuss project components in relation to impervious surface area calculations in efforts to explore cumulative impacts of the proposed project.

Heliostats/Mirrors

One of the projected increases in impervious surfaces at the proposed project site should it be approved would come from heliostat/mirror assemblies as stated here:

> *"In addition, the heliostat assemblies would essentially function as thousands of rooftops and create approximately 851 acres of impervious surfaces, covering about 26 percent of the project site…..However, because the heliostats would be installed such that surface runoff flows to the pervious dirt areas of the solar field, impacts are considerably less severe than a contiguous stretch of impervious area."*(2)

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 583
(2) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 587

Soil Types

When the impervious surfaces of the mirrors are combined with the general soil types identified in the U.S. General Soil Map, an additional 25% of the proposed project site could be considered as potentially containing impervious surfaces due to their preexisting high runoff potential. While it is understood that some impervious surface soils may overlap with impervious surfaces from the mirrors, a site-specific final geotechnical analysis will most likely reveal impervious surface type soils create a higher percentage of soil types at the proposed project site than is currently estimated in the generalized U.S. Soil Map.

Maintenance Paths

1. Unsubstantiated Data

While the applicant has supplied the estimated number of acres projected to be disturbed due to the development of maintenance roads required to accommodate the Mirror Washing Machines (MWM), there is no data in the AFC files that reveals the actual number of roads that will surround the power towers or that support the applicant's acreage assessment.

2. Conflicting Data

With respect to the maintenance roads positioning, frequency and size, there is now conflicting data being presented regarding just exactly what design the applicant intends to implement. Based on my own review of the AFC files, the original design element was to contain 20-ft drive zones, not the 10-ft. maintenance paths used in the surface hydrology analysis quoted below.

Preliminary Staff Assessment, Soils and Surface Waters, pg. 571:

"10-ft wide dirt heliostat maintenance paths located concentrically around the power plants, placed approximately 152 feet apart."

Preliminary Staff Assessment, Traffic and Transportation, pg. 622

"Within the heliostat fields, 20-foot wide "drive zones" would be located concentrically around the power block to provide access to the heliostat mirrors for maintenance and cleaning. The drive zones would be located approximately 152 feet apart and would be grubbed to remove vegetation and smoothed."

While the applicant cites 189.2 acres will disturbed in Soils and Surface Waters, Table 6(1), it is currently unknown if this acreage is representative of the 10 ft. paths or the 20 ft. drive zones.

Additional conflicting data is also presented between the estimated number of impervious areas due to the heliostat assemblies in Table 6 (806 acres) and Staff's assessment (851 acres), a difference of 45 acres equaling 9,500 mirrors not currently accounted for. This may be a result of Staff error that inadvertently combined all impervious surfaces and reported it as the heliostat assemblies only or it may be a result of changes to design layout resulting from the applicant reformatting the concentric roads from 20 ft. drive zones to 10 ft. maintenance paths.

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 574

Finally, there continues to be the issue of the applicant's previously admitted error of miscalculating the impervious surface from the originally projected 14.5% to 27.5%. However, none of this data or information can be verified because the referenced Appendix 5.15ER that contained the revisions for the error was not included in the Supplemental Response(1) that noticed the error and is not available as a separate document on the CEC website. Though this fact has already been described in the Soil sections of my prior comment submission, it has continued to remain unavailable for public review.

3. Natural Drainages/Sheet Flow

The third component in trying to determine the maintenance paths/drive zone impacts to impervious surfaces relates to the preservation of relatively natural drainages, sheet flow, and surface characteristics supposedly supported by the applicant's Low Impact Design (LID). This type of design is purported to leave much of the existing landscape "in tact" throughout the heliostat fields as well as allowing for previously disturbed acreage to resume its natural channel and flow characteristics over time.

The following quotes and assumptions are not data supported. If fact, evidence suggests just the opposite will occur at the proposed project site should it be approved.

> *"Proposed construction of the HHSEGS project would alter existing onsite drainage patterns which could potentially cause or increase onsite flooding. For the majority of the project site, existing drainage patterns would generally remain the same. However, changes to a number of areas such as grading, adding impervious surfaces, diverting flows, and impeding flows can increase the amount of storm water runoff volume and rate."*(2)

> *"Grading would also be needed to create a system of roadways for access to each facility and well as maintenance of the heliostats, although grading in the solar fields would match natural contours and promote sheet flow where possible."*(2)

> *"Grading and mowing during construction could directly result in a permanent loss of a large portion of the ephemeral drainages that are present due to their shallow depths; however, affected drainages would be expected to reform naturally in this landscape where flow patterns are highly variable, both temporally and spatially."*(3)

(1) 2011-09HH, Applicants Supplemental Response to Data Adequacy Review, pg. 53.
(2) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 586
(3) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 576

4. The Impacts of Air Quality and Impervious Surfaces

The volume of disturbed acreage that will occur throughout the proposed project site is expected to produce a significant amount of fugitive dust that will degrade air quality in the project vicinity. In order to reduce the impacts of fugitive dust, methods will have to be employed to suppress soils and their resulting airborne particles.

Currently, there are three methods (or a combination thereof) that are most likely be utilized on the maintenance paths/drive zones to reduce fugitive dust impacts throughout the life of the project. These are, a) surfacing the maintenance paths with gravel, b) using chemical dust suppressants and/or, c) spraying water from water trucks.

Neither applicant or Staff have disclosed what methods of dust suppression will be employed for the operational portion of the proposed project. However, since no construction emissions of the additional trucks required to transport gravel to the site has been included in the AFC project data nor has Staff and/or applicant factored in the operational water requirements of utilizing water trucks over the life of the project, the most obvious conclusion that can be drawn is – the applicant will most likely use chemical dust suppressants throughout the project site over its 25-30 year life span. But this choice does not come without consequences or additional impacts and they directly relate to the problems associated with impervious surfaces.

5. Chemical Dust Suppressants

Currently, Staff is recommending the use of chemical dust suppressants and soils binders that have been precertified by the California Air Resource Board. (For extensive and detailed information regarding these products, please see this comment submissions section on Air Quality, Operational Dust Control Plan: Inadequate Impact Analysis.)

The short version is, these dust suppressants require relatively strict surface controls in order for them to be effective. No drainages, no “natural” contours, no rutting, no potholes, no washboarding, etc. The roads must be maintained in a relatively smooth fashion if the dust suppressants are going to effectively bind the soil to prevent significant dispersals of fugitive dust, soil erosion and soil displacement.

Of course, this in turn will create additional impervious surfaces not yet accounted for, which based on the currently available information of 189.2 acres reported by the applicant for the dirt maintenance roads/drive zones, would add at minimum, another 6% to the impervious surface area total. (This assumes no changes have resulted in soil disturbances between the 10 ft. paths and the 20 ft. drive zones. Actual soil disturbances may be higher than is currently being reported in Table 6.)

Areas of Other Impervious Surfaces

Based on the other impervious surfaces described in Table 6(1), a total of 45 acres will add to surface runoff for an additional 1% increase.

Potential Site-Specific Impervious Surfaces

TABLE 1
ESTIMATED IMPERMEABLE AREA OF PROPOSED HHSEGS (Revised)

ELEMENT	IMPERVIOUS SURFACE	% OF SITE
Soil	806 acres(a)	25%
Mirrors	851 acres*(b)	26%
Maintenance Paths	189.2 acres(c)	6%
Other	45 acres(c)	1.5%
TOTAL	**1,891.2 acres**	**58.5%**

a) Estimations based on CEC Preliminary Staff Assessment, Soils and Surface Waters, Table 3; U.S. General Soil Map: Soil Unit S5740 Sub-Components, pg. 568. These may change based on the results of the Final Geotechnical Report.
b) Estimations based in CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 587
c) Estimations based in CEC Preliminary Staff Assessment, Soils and Surface Waters, Table 6, pg. 574
*Note: Based on the similarity of statistical discrepancies between the applicant's estimation of impervious mirror surfaces reported at 806 acres and Staff's determination of impervious mirror surfaces reported at 851 acres, it is possible that Staff made an error by combining all impervious surfaces and reporting it solely for heliostat assemblies. However, it is equally as possible that the increase in mirror surface was a result of design element changes due to the applicant's revisions of the concentric roads from 20 ft. drive zones to 10 ft. maintenance paths.

Questions

1. Did Staff make an error in estimating impervious surfaces from heliostat/mirror assemblies or have design changes increased the number of heliostat/mirror assemblies on the proposed site?

2. Based on historical experience in the area, it is probable that the highest concentration of clay and clay like soils will most likely be located in the South, Southwest and West end of the proposed project site. If this turns out to be the case as a result of the Final Geotechnical Report, what differences will this make (if any) to offsite flooding in this area?

3. What evidence and/or data is available that supports the estimated soil disturbance acreage, impervious surface acreage and where is it located in the AFC files or subsequent documents?

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, Table 6, pg. 574.

4. What is the accurate design element for the roads that will circle the power towers; the 20 ft. drive zones or the 10 ft. maintenance paths?

5. What is the difference in total affected acreage between these two design elements for the drive zones versus the maintenance paths?

6. If chemical dust suppressants are used to control fugitive dust over the life of the project, shouldn't the impervious surfaces they create be included in the impervious surface evaluations?

7. If the applicant and/or CEC CPM approve the use of Pennz-Suppress D for dust suppression over the life of the project, what potential impacts will this product have to water, water quality and biological resources in and around the proposed project site?

8. Gravel surfaces and roads in the area have proven to be reasonably effective in slowing storm water runoff, ponding and structure collapse. Given its advantages in the area, would the CEC Staff recommend the drive zone/maintenance paths be surfaced with gravel to reduce impervious surfaces between the heliostat fields as well as reducing potential impacts for onsite and offsite flooding?

9. In the Applicants Supplemental Response to Data Adequacy Review, a reference was made to Appendix 5.15R containing revisions to previous errors. However, this Appendix has not been posted on the CEC website and still remains unavailable for public review. Will the CEC finally post this document?

10. Given the fact that the heliostat/mirror assemblies alone will increase the impervious surface area by 26%, wouldn't this be considered a significant unmitigatable change to the existing landscape? Wouldn't this fact require stricter onsite controls to reduce these unmitigatable impacts from adversely affecting the environment?

11. In a CEC sponsored workshop on July 2, 2012, regarding Alternatives, a chart was shown comparing the impacts of the HHSEGS to other renewable technologies(1). Here, it determined the impacts of the HHSEGS to onsite and offsite flooding and other storm water related events as "less than significant". Given the number of issues raised, such as increasing the currently existing impervious surfaces by 26% due to the heliostat/mirror assemblies alone or potential catastrophic impacts to heliostat/mirror assemblies from storm water velocities associated with alluvial fans, would Staff revisit this determination and more fully explore the adverse environmental impacts in the Final Staff Assessment?

(1) CEC Preliminary Staff Assessment, Alternatives Appendix-2, Summary Comparison of the Proposed Project's Impacts to the Project Alternatives and the No-Project Alternative, pg. 1,134.

6. DRAINAGE, EROSION, AND SEDIMENTATION CONTROL PLAN: INADEQUATE DATA

Background

Since the initial filing of the applicants Application for Certification, several design changes have occurred, none of which have been re-evaluated for potential site-specific impacts with respect to the Drainage, Erosion, and Sedimentation Control Plan (DESCP) as is shown below.

> *"The DESCP should reflect the most recent design plans of the proposed HHSEGS project. Since the initial filing of the original AFC, several changes to the project have occurred such as the facility layout and basic shape of each power block, the undergrounding and new alignment of onsite linear facilities, relocation of the project switchyard, and modifications to the west perimeter retention area. Any adjustments that would alter Water Pollution Control Drawings, change the BMP strategy, or result in revised hydrology or hydraulic calculations should be reflected and addressed in an updated DESCP."*(1)

While Staff acknowledges the DESCP is out of date, there currently seems no stipulation that requires the applicant to update and/or report changes in the DESCP and its potential impacts in and around the proposed project site prior to project approval.

Consequently, it is currently unknown and will most likely remain unknown as to how extensive these changes will affect the original project design and its associated impacts or how accurate any of the DESCP analysis currently is.

Questions

1. How can review, analysis and appropriate mitigation measures be developed during the AFC CEQA equivalency process if key information and data is out of date and potentially irrelevant?

2. Since the CEC Staff is aware of the potential problems associated with an out of date DESCP, will they require an updated version be made available for review during the AFC CEQA equivalency process?

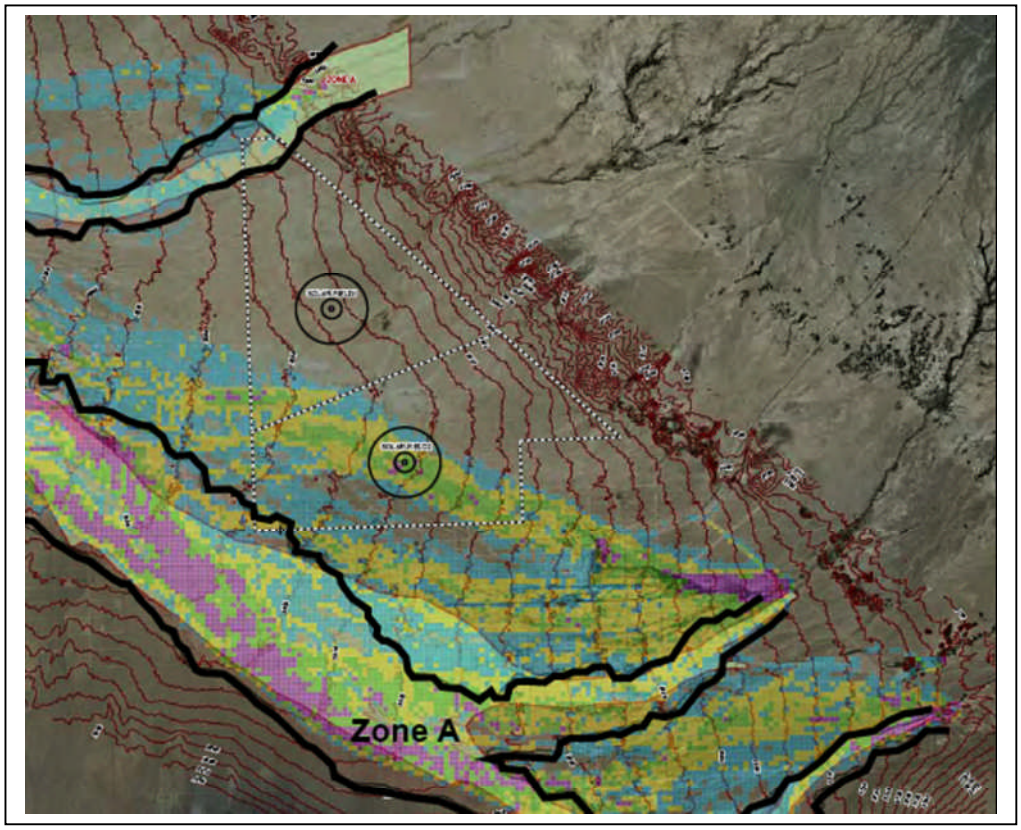
7. FLOOD IMPACTS TO COMMUNITY

Background

The majority of the CEC Staff Assessment focuses on onsite flooding and the east/west axis of the proposed project site with respect to storm water impacts, flooding and the proposed retention basin designed to mitigate the majority of these impacts.

What receives very little attention, analysis or discussion is the HHSEGS's potential adverse impacts to the north/south axis - with the sole exception of acknowledging these areas have been identified in FEMA floodplain maps under a Zone A designation.

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 582



Source: HHSEGS Preliminary Staff Assessment, Soils and Surface Waters, Figure 3, pg. 611.

With respect to what a Zone A designation means, Staff provides two different definitions in the course of the text. One defines it as flood zone with no base flood level and one defines it as a flood hazard area.

> *" Two areas, located at the north tip of the site and the southwest corner of the site (see Soils & Surface Water Figure 3) have been mapped by FEMA as Zone A, which means 100-year flood zone with no base flood levels determined. <u>These are considered approximate flood zones</u>.*(1) [Emphasis added.]
>
> *"Although the north tip and southwest corner of the project footprint are located in areas designated at Zone A (<u>100-year flood hazard area</u>), neither of the power blocks or the administration complex are within these zones. Only heliostat poles and at-grade access roads would be placed in the designated 100-year flood zone, and neither would impede nor significantly redirect Zone A flood flows13."*(2) [Emphasis added.]

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 569
(2) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 589

What makes this even more interesting is, the footnote in the quote above states:

> *"13: The elevated portion of the west perimeter road is located between two Zone A boundaries, separated by more than 200 feet to the north and more than 2000 feet to the south."*

Why this may be significant is due to the fact that Staff explained that the designated Zone A flood zones were "approximate" but then they go on to explain how merely feet will keep the two flood hazard zones separated.

The CEC Staff also acknowledges that FEMA maps do not cover all floodplains as outlined in the quote below and in conformance with one of the Zone A definitions. As a result, the applicant developed a preconstruction hydrology analysis to help identify potential issues and impacts.

> *"FEMA maps do not cover all floodplains. The applicant completed a Preconstruction Hydrology Analysis that modeled onsite peak flows, runoff volumes, maximum velocities and maximum depths during more frequently occurring storm events. Soils & Surface Water Table 5 presents the estimated peak flows leaving the site calculated from crosssections located along the west border (as shown in Soils & Surface Water Figure 4). The majority of runoff flows through the southern portion of the site due to offsite flows originating from the east."*(1) [Emphasis added.]

While acknowledging the fact that the majority of runoff flows through the southern portion of the site, Staff only provides an analysis for east/west impacts in relation to the retention area and onsite flooding and throughout the text, neglects analysis or impact determinations to the north/south axis, especially in relation to offsite flooding potentials.

> *"Furthermore, although the retention area would cause substantial onsite flooding, the inundated area (as shown in Soils & Surface Water Figure 7) would not extend past the proposed site's borders to flood offsite areas **east** of the project site. Staff agrees with the applicant that HHSEGS would avoid significant adverse impacts which could result from offsite flooding."*(2) [Emphasis added.]

The only reference to the north/south axis that could be found in the CEC Staff analysis was located in a footnote regarding the west perimeter road that will parallel the retention area.

> *"10: The north and south ends of the west perimeter road would match existing elevations. The elevated portion would be about 1500 feet in length, beginning approximately 3000 feet north of Old Spanish Trail Road and would return back to existing elevation approximately 2100 feet prior to the north end of the road."*(3)

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 569
(2) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 589
(3) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 587

With respect to maintaining the existing elevations on the north/south axis, the southern area has already been acknowledged by Staff as having the highest potential for a flood hazard.

In efforts to eliminate any future discussions or disagreements regarding the difference between "potential" and "actual" flood zones and impacts, the southern boundary of the proposed project site is already a well-known flood area as is the adjacent community of Charleston View.

The Old Spanish Trail Highway (Tecopa Road), which is directly adjacent to the southern boundary of the proposed project site, has "washed out" before due to previous storm events. As a result, for years a flash flood warning sign has been installed on the shoulder of the Tecopa Road only a few feet away from the proposed project's southern boundary and right in the middle of the proposed site.

"Road Subject To Flooding" sign on Old Spanish Trail Highway looking west and slightly east of Charleston View. Sign located between the Orchard Well area (adjacent to the "western perimeter road" known in Charleston View as Rose Ave.) and St. Theresa. Photo taken 5/14/12.

Therefore, pre-existing conditions clearly indicate that maintaining the existing elevations will also maintain the existing flood zones and impacts. However, the proposed project is also going to make significant changes to the existing landscape through increased impervious surfaces, changes in drainage channels, ephemeral washes, and structural components - such as the retention area located on the "western perimeter road". This road also happens to be a continuation of one of the two main roads used by residents of Charleston View that is merely separated by the Old Spanish Trail Highway (Tecopa Road).

Though Staff has not described any significant analysis or evaluation regarding the proposed project's impacts to locations offsite from the southern boundary, they did provide a reasonable description of what might be expected in a worse-case scenario flood event with respect to its impacts to the retention area on the east/west axis as illustrated below.

> *"The elevated west perimeter road would decrease post construction runoff to better match preconstruction runoff, but this created retention area would also clearly cause substantial onsite flooding. For the 100-year, 24-hour storm, the west perimeter road would retain 195.4 acre-feet of water across over 100 acres of land, with depths ranging from about four feet deep (at the base of the road) to about half a foot deep (toward the east)."*(1) [Emphasis added.]

The current pre-existing flood conditions can already be pretty severe to the Old Spanish Trail Highway (Tecopa Road) and the community of Charleston View with respect to a high volume flood event. Impeding and bottling up this water across the western perimeter road, which may force it to flow at even greater speeds and volumes towards the southern axis will, at the very least, most likely cause even greater concerns, issues and damage to the Old Spanish Trail Highway (Tecopa Road), Rose Avenue and possibly, to the residents of Charleston View.

The CEC Staff MUST do a more thorough analysis of what the potential adverse offsite flooding impacts may be at the southern portion of the site, to the Old Spanish Trail Highway and to the community of Charleston View.

Questions

1. Will Staff please provide a clear definition of what a Zone A flood zone definition is?

2. While Staff has determined that heliostat pylons and maintenance roads located in the southern portion of the proposed project site will not significantly impede or redirect current flood flows, what impacts would increasing the impervious surfaces have on this area with respect to volume, velocity and rates of flooding?

3. Since one of the definitions for a Zone A flood classification is, its area is "approximate", why has Staff deemed that merely 200 or 2,000 ft. is fully capable of separating the two zones when definitive data is not available?

4. Why did Staff confine the majority of their analysis regarding storm water flows and potential flood impacts to; a) onsite evaluations, b) non-residential areas located near the proposed project boundaries, and c) the east/west axis versus the north/south axis?

5. What are the projected impacts to the Old Spanish Trail Highway during a 100-year, 24-hour storm event if the proposed project is approved?

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 588

6. Can the retention area result in excessive flooding and inundation by following the western perimeter road to join up with other flood flows coming from the south that match the FEMA floodplain maps?

7. Did the CEC Staff check the applicant's figures for accuracy in the "Estimated Peak Discharge Along Western Boundary" located in Table 5?

8. LOW IMPACT DESIGN: NOT DATA SUPPORTED

Background

While the CEC Staff describes concerns regarding data and potential impacts of the applicant's proposed Low Impact Design (LID). However, the measures outlined purported to reduce those impacts remain undefined in terms of to what extent "help reduce" actually achieves and if this reduction still results in potentially significant, significant or unmitigatable impacts.

> *"Although the applicant does not specifically demonstrate that all components of LID are met, namely the objective of maintaining preconstruction runoff volume, the above measures would help reduce the increase in volume."*(1) [Emphasis added.]

Questions

1. What does "help reduce the increase in volume" translate to in terms of degree of actual impact reductions? 1%? 10? 50? Please explain.

2. After the measures referred to that would help reduce the increase in volume are implemented, would the remaining impacts still be potentially significant, significant or unmitigatable?

9. SEPTIC SYSTEM: INCORRECT DETERIMINATION

Background

Staff has incorrectly identified how sanitary wastes are currently being planned for disposal at the proposed project site as illustrated below.

> *"To prevent the discharge of untreated industrial wastewater or untreated sanitary wastewater from entering nearby water resources, HHSEGS would transport the reject from the thermal evaporator and the sanitary waste from the septic tanks to approved facilities for offsite disposal. (See "Operations Wastewater" and "Sanitary Wastewater" discussions below.)"*(2) [Emphasis added.]

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 597
(2) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 586

While it is my fervent wish that the disposal methods outlined above were, in fact, the proposed method for disposal, it is not.

Questions

1. Would Staff recommend as a Condition of Certification, the allowance of onsite septic tanks but eliminate the connected leach fields to ensure the applicant would have to dispose of all wastes offsite versus allowing wastes to seep into local groundwater over the life of the project?

10. INDUSTRIAL WASTES: SOIL/WATER CONTAMINATION & APPLICANT'S EXEMPTION

Background

Under one of the Staff's recommended Conditions of Certifications, the applicant may apply for an exemption to the general NPDES permit required for the cement batch plant.

> INDUSTRIAL - NPDES GENERAL PERMIT (CEMENT BATCH PLANT), SOILS-3:
> *"The project owner may also submit a Notice of Non- Applicability (NONA) to the RWQCB to apply for an exemption to the general NPDES permit."*(1)

Questions

1. Would Staff please clearly explain what this means, what the applicant would be exempt from, what the differences between operating with and without the permit are, why the applicant would qualify for a NONA, and how onsite waste disposal generated from the cement batch plant may differ between the two options?

11. RETENTION BASIN: CONCENTRATION OF POLLUTANTS

Background

The construction and operation of the HHSEG, will result in the introduction of a wide variety of chemicals, hazardous substances and contaminants that, to date, have never before entered this ecosystem or the surrounding environment. As a result, critical resources such as soil, water and air can be considered in almost pristine condition compared to modern standards.

The depth and extent of contamination and poisoning resulting from the currently accepted, approved and standardized activities for industrial, commercial, military and domestic uses has resulted in wide scale environmental degradation across the globe.

In my first submission, "Preliminary Comments, Technical Analysis and Recommendations"(2), the consequences of these standardized practices, which have caused much of this wide spread environmental degradation, were briefly summarized.

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 601
(2) "Cindy MacDonald's Preliminary Comments, Technical Analysis and Recommendations" to CEC regarding Hidden Hills Solar Electric Generating System available at: http://www.energy.ca.gov/sitingcases/hiddenhills/documents/others/2012-03-09_MacDonald_Comments_TN-64464.pdf

One of the key issues I devoted a considerable amount of discussion to was the importance of water and how the current regulatory system was failing to both ensure its quality or protect its availability as a public resource.

Currently, there is ample evidence available pointing toward the modern trend of corporate and financial interests finding contaminated water of more value than non-contaminated water. Once water because unusable, no longer "free" to the public or protected under public trust values, the stage is set to convert water into a product and now the public must pay for life itself.

There is no "power" greater on Earth than the control and access to useable water.

While popular debate thrashes around the reality of global warming (is it real or not) and politicians argue for and against implementing laws/policies that will reduce greenhouse gases and/or emissions deemed predominately responsible, insufficient attention is being given to the subject of water. As a result, evidence indicates the lack of useable water is going to reach the critical crisis stage long before the full impacts of global warming ever reach fruition.

For example, the article, "*Groundwater Depletion Is Detected From Space*"(1), shows the dramatic decline of water levels in some of the most heavily relied upon underground aquifers in California, which include both the Sacramento and San Joaquin River Basins.

Again, to briefly summarize what has already been submitted to the CEC Staff regarding California specifically with respect to its lack of effectiveness in either regulating or enforcing regulations designed to protect water quality, as of *ten years ago* more than one third of the groundwater assessed in California was so polluted it could not fully support at least one of its intended uses and as of October 2011, the EPA had reported toxicity levels in California waters had increased by 170% from 2006-2010.(2)

Despite the evidence, data and statistics, which clearly indicate what we have been doing and/or are suppose to be doing to protect our water quality isn't working, the CEC Staff issues the following determination and conclusion regarding the impacts of introducing the HHSEGS to this relatively pristine environment and the local water supply.

> *"As discussed in "Onsite Area Flooding" above, an onsite retention area would accumulate runoff from a majority of the HHSEGS site along the west perimeter road before discharge offsite through a culvert. However as discussed in "Water Quality" above, staff does not identify any significant impacts to water quality as a result of the retention area."*(3) [Emphasis added.]

(1) "Groundwater Depletion Is Detected From Space", F. Barringer, New York Times, 5/30/11. Accessed 7/12/12 http://www.nytimes.com/2011/05/31/science/31water.html?_r=2&pagewanted=all
(2) "Cindy MacDonald's Preliminary Comments, Technical Analysis and Recommendations" to CEC regarding Hidden Hills Solar Electric Generating System, Hazardous Materials, available at: http://www.energy.ca.gov/sitingcases/hiddenhills/documents/others/2012-03-09_MacDonald_Comments_TN-64464.pdf
(3) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 596

Ironically, the conclusion reached by the CEC Staff from the quote above was a summary of the discussion quoted below regarding possible impacts of pollution and the retention area. The lack of logical progression, data, omissions and critical analysis exemplified in this discussion illustrate just how Staff was able to manipulate the conclusion to "less than significant" impacts to water quality in the affected area.

> *"To prevent an increase in storm water flows discharged offsite as a result of the increase of impervious area, HHSEGS proposes an onsite retention area located along the west perimeter road, as discussed in "Onsite Area Flooding" below. The retention area, located within the project boundary (see Soils & Surface Water Figure 7), would slowly drain storm water offsite through an 18-in culvert at a flow rate matching preconstruction conditions. <u>This "collection and treatment" approach creates a point-source discharge that could increase the volume and possible amounts of pollutants</u>, even when peak discharge rates of post construction are matched to rates of preconstruction. <u>Because this point-source discharge is not upstream of an impaired water body</u> and the applicant identifies BMPs to reduce <u>erosion caused by the flows through the culvert</u>, <u>staff does not identify any significant impacts to water quality as a result of the retention area</u>."*(1) [Emphasis added.]

By limiting the impact discussion to "*point-source discharge not upstream of an impaired body of water*" – since there is none in the vicinity, and "erosion control" practices, many of which will only be actually developed after project approval, all the onsite hazardous materials, emissions, and chemical introductions required to construct and operate the HHSEGS just "disappear" from the equation. The construction and operation of the HHSEGS <u>*will make impacts*</u> to currently existing conditions of both the soil and water quality in the surrounding environment.

The question is, to what degree?

Questions

1. Where is the discussion and analysis of impacts to water and soil quality resulting from the HHSEGS's introduction of chemical and hazardous materials to the environment during construction and operations?

2. When Staff refers to "*could increase the volume*" of pollutants, what is this based on and what degree of volume are they discussing?

3. When Staff refers to increasing "*possible amounts of pollutants*", what is this based on, what kind of pollutants are they referring to, and what is the possible amount of increases they are referencing?

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 584

4. Since storm water runoff from the entire proposed project site will predominately be directed toward the single point retention area, what are the kinds and volume of both individual and cumulative chemical and hazardous material pollutant impacts if combined with storm water and deposited in this singular area?

5. What protection will be provided in the retention area to prevent storm water runoff that has combined with onsite chemicals and hazardous materials (i.e., diesel, oil, etc.)? For example, will the retention area be lined with a non-permeable non-toxic substance to prevent saturation of soils and eventual seepage into local groundwater resources?

6. If the retention area is protected through the installation of a non-permeable, non-toxic liner that prevents soil/water contamination, how will this prevent pollutants from eventually discharging into the environment through the drainage culvert?

7. Where has Staff analyzed, discussed and determined impacts of the construction and operations of the HHSEGS with respect to possible adverse impacts to soil resources?

8. The applicant intends to use lead-acid batteries to power the heliostat/mirror assemblies. These batteries may number up well over one hundred thousand. What impacts will storm water runoff have if it contacts these batteries and/or sweeps them into the retention area?

9. If a 100-year 24-hour storm event is capable of dislodging 18,000 heliostat/mirror assemblies (or more) from the proposed project site such as was modeled by the BLM for the Ivanpah site, wouldn't this indicate that 18,000 lead-acid batteries (or more) would also be dislodged during this same storm event? What would be the impacts to water and soil quality if this happened?

10. How many lead-acid batteries being dislodged and swept into the retention area and/or surrounding environment would it take to become a "significant adverse impact" to the environment? To water quality? To soil resources?

11. What site-specific data does Staff rely upon to reach their determination that the construction and operation of the HHSEGS will not result in significant degradation of water quality or soil resources over the proposed project's life span?

12. How far into the project's lifetime did Staff analyze or model site-specific cumulative impacts of listed chemicals, hazardous materials and substances that will be utilized over the proposed project's lifetime that resulted in Staff's "*not identifying any significant impacts to water quality as a result of the retention area"*?

APPENDIX I

HIDDEN HILLS AND LOCAL TOPOGRAPHY

Source: Cover photo from Hidden Hills Solar Electric Generating System (HHSEGS), Preliminary Staff Assessment, May, 2012.

The following photos represents a close up view of the topography and landscape that comprises the alluvial fans, the "ridge" that sits above the proposed project site and the valley floor as seen in the aerial photo featured on the cover the CEC Preliminary Staff Assessment regarding the proposed siting of the Hidden Hills Solar Electric Generating System. All photos were taken on April 25, 2012.

Above: Photo taken on top of the ridge above the proposed HHSEGS project site looking Southeast.
Below: Photo taken on top of ridge above the proposed HHSEGS project site looking North/Northeast.

Above: Photo taken on top of ridge above the proposed HHSEGS project site looking North.
Below: Photo taken on top of ridge above the proposed HHSEGS project site looking North/Northwest.

Above: Photo taken on top of ridge above the proposed HHSEGS project site looking West. Stewart (dry) Lake can be seen in the background. Water flows from this ridge, through the proposed project site and to the lakebed.
Below: Photo taken on top of ridge above the proposed HHSEGS project site looking West.

Above: Photo taken on top of ridge above the proposed HHSEGS project site looking Southwest. The greenery in the background is Charleston View. Solar Plant I's Tower Power will be located just in front of it.
Below: Photo taken on top of ridge above the proposed HHSEG project site looking South.

Above: Photo taken on top of ridge of terrain above the proposed HHSEGS project site.
Below: Photo taken on top of ridge of terrain above the proposed HHSEGS project site.
Shown are rocks/soil that have been dislodged due to severe storm events, erosion and flooding in the area.

Above: Photo taken on top of ridge of terrain above the proposed HHSEGS project site looking Southwest. Shown is a close up of some of the flood channels that sit above the proposed site.
Below: Photo taken on top of ridge of terrain above the proposed HHSEGS project site looking East.

Above: Photo taken slightly below the ridge above the proposed HHSEGS project site looking West.
Below: Photo taken of ridge above the proposed HHSEGS project site looking West/Northwest.
Stewart (dry) Lake can be seen in the distance. The HHSEGS will sit between these two geographical features.

TRAFFIC & TRANSPORTATION

"No shame, no solution
No remorse, no retribution."

15. TRAFFIC & TRANSPORTATION

This is the second comment submission regarding the Application for Certification for the proposed Hidden Hills Solar Electric Generating System (11-AFC-02). This submission should be considered supplemental too, but not a replacement of, the first submission. All page numbers cited are from the pdf. format and do not represent the actual page numbers specific to the documents.

1. TRUCK DELIVERIES: LOOKS GOOD ON PAPER BUT….

While statistical analysis and modeling of delivery truck traffic impacts may work on paper - when all delivery trucks arrive in perfectly unified synchronicity – no one is capable of coordinating delivery trucks arriving from California, Nevada, Arizona and other states within these perfectly timed intervals.

Questions

1. If applicant and Staff finally believe they have resolve all discrepancies and have factored in every conceivable vehicle, their arrival and departure times and have even accommodated for the traffic changes due to seasonal increases created by the "Dumont Duner's", where are the delivery trucks going to wait if they fail to arrive at the project site in accordance to the timing projected in the modeling analysis?

2. Will CEC Staff provide any mitigation measures, such as requiring waiting trucks to turn off their engines if they must wait longer than three minutes for site entry in order to control air emissions and 5:00 am noise pollution to Charleston View residents located merely 5 acres away from the Old Spanish Trail Highway?

2. ADDITIONAL VEHICLE IMPACTS/ANALYSIS OMISSION

In addition to the current vehicle traffic statistics contained in the AFC files as well as reasonably foreseeable increases due to the proposed HHSEGS project and St. Theresa Mission, a significant number of vehicles now utilizing the Old Spanish Trail Highway (Tecopa Road) have been omitted from traffic impact and analysis by both the applicant and CEC Staff.

Specifically, in the 23rd edition of the Pahrump Valley Chamber of Commerce Magazine, Front Sight Firearms Training Institute reported that nearly 25,000 students were trained at the site in 2011. This indicates that if each student only drove to the site one time, a minimum of 2,000 vehicles a month (or 4,000 vehicle trips) on average are also utilizing the Old Spanish Trail Highway that are currently unaccounted for.

Questions

1. How does the addition of 4,000 more vehicle trips per month impact the applicant and Staff's current traffic impact analysis?

TRANSMISSION SYSTEM

“Just opportunity to participate in the pathetic little circus
And winning,
winning,
winning!"

16. TRANSMISSION SYSTEM

This is the second comment submission regarding the Application for Certification for the proposed Hidden Hills Solar Electric Generating System (11-AFC-02). This submission should be considered supplemental too, but not a replacement of, the first submission. All page numbers cited are from the pdf. format and do not represent the actual page numbers specific to the documents.

1. SWITCHYARD LOCATION: WHERE IS IT?

Background

One of the key components of the Boiler Optimization Plan is the applicant proposing the switchyard be moved offsite and relocated to the Nevada side of the border. Beginning with the opening Section "Relocation of Switchyard and Gas Metering Station"(1), the applicant states:

> *"Since the switchyard and metering station will be moved immediately across the border, any potential impacts of those facilities will be analyzed along with the other project components located in Nevada – in compliance with the National Environmental Policy Act (NEPA)."*(2)

The applicant also removed the Switchyard from further analysis by describing it as "*moved offsite*" in Table 5.13-4R1 (Revised), Approximate Dimensions and Colors, Materials, and Finishes of the Major Project Features.

The applicant also states that,

> *"The major components of each solar plant's power block, as revised, are described in Table 2.3-2R1.*(3)

Yet Table 2.3-2R1: Power Block Major Equipment and Facility List, continues to include "*Switchyard*" under the revised major components of the solar plants.

Additionally, during the June 4, 2012, Status Conference, the applicant stated that they could move the switchyard back to the original design if the CEC wanted them to, that they only had made this change to accommodate BLM's concerns regarding the transmission and natural gas lines impacting mesquite thickets in the project vicinity.

(1) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 7.
(2) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 8
(3) 2012-04-09 Supplemental Data Response, Set 2, TN-64558, pg. 7.

Finally, in the CEC Preliminary Staff Assessment, Staff describes the switchyard as being on-site while simultaneously providing maps(1) illustrating the switchyard is offsite.

> *"For each plant, the gen-tie line would begin at the power block as an underground line and extend through the heliostat field to emerge at a transition point into an overhead configuration. It is from this transition point that the line would extend into the on-site switchyard."*(2) [Emphasis added.]

As a result of all of the above, it is currently unclear what proposal we are looking at or analyzing impacts of.

Questions

1. Where is the switchyard going to actually be located; onsite or off-site?

2. If the switchyard is located off-site, what is the approximate acreage it will require and will it be located on public or private land?

2. TRANSMISSION SYSTEM: ALTERNATIVE ROUTE

Background

On May 21, 2012, I submitted Status Report #1 to the CEC due to my obligations as an Intervenor. This Status Report included, Appendix A: Alternative Traffic Route for the Proposed Hidden Hills Solar Electric Generating Station(3). Though presented as an alternative route to address construction and operational traffic concerns, upon retrospect, it may be equally capable of serving as an alternative route for the proposed transmission system and gas pipeline required to serve the proposed HHSEGS should it be approved.

Therefore, I am resubmitting some of this information to be reviewed as a potential alternative route for the transmission system and gas pipeline. The reason the applicant proposed moving the switchyard off-site was due to BLM concerns regarding potential adverse impacts to critical vegetation and habitat that lies in the transmission system and gas pipeline zone of impact, most of which would be avoided if this alternative route was used instead.

Questions

1. Would the CEC Staff please address the feasibility and provide an impact analysis of using this alternative route for the transmission system/gas pipeline and switchyard locations?

2. Would utilizing this alternative route reduce or prevent adverse impacts to the vegetative, wildlife and critical habitat resources BLM expressed concern about?

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, Figure 6, pg. 614
(2) CEC Preliminary Staff Assessment, Transmission Line Safety and Nuisance, pg. 1,166
(3) Intervenor Cindy MacDonald's Status Report #1, available at: http://www.energy.ca.gov/sitingcases/hiddenhills/documents/others/2012-05-21_Intervenor_Cindy_MacDonald_Status_Report_01_TN-65372.pdf

APPENDIX I

TRANSMISSION SYSTEM/GAS PIPELINE
ALTERNATIVE ROUTE

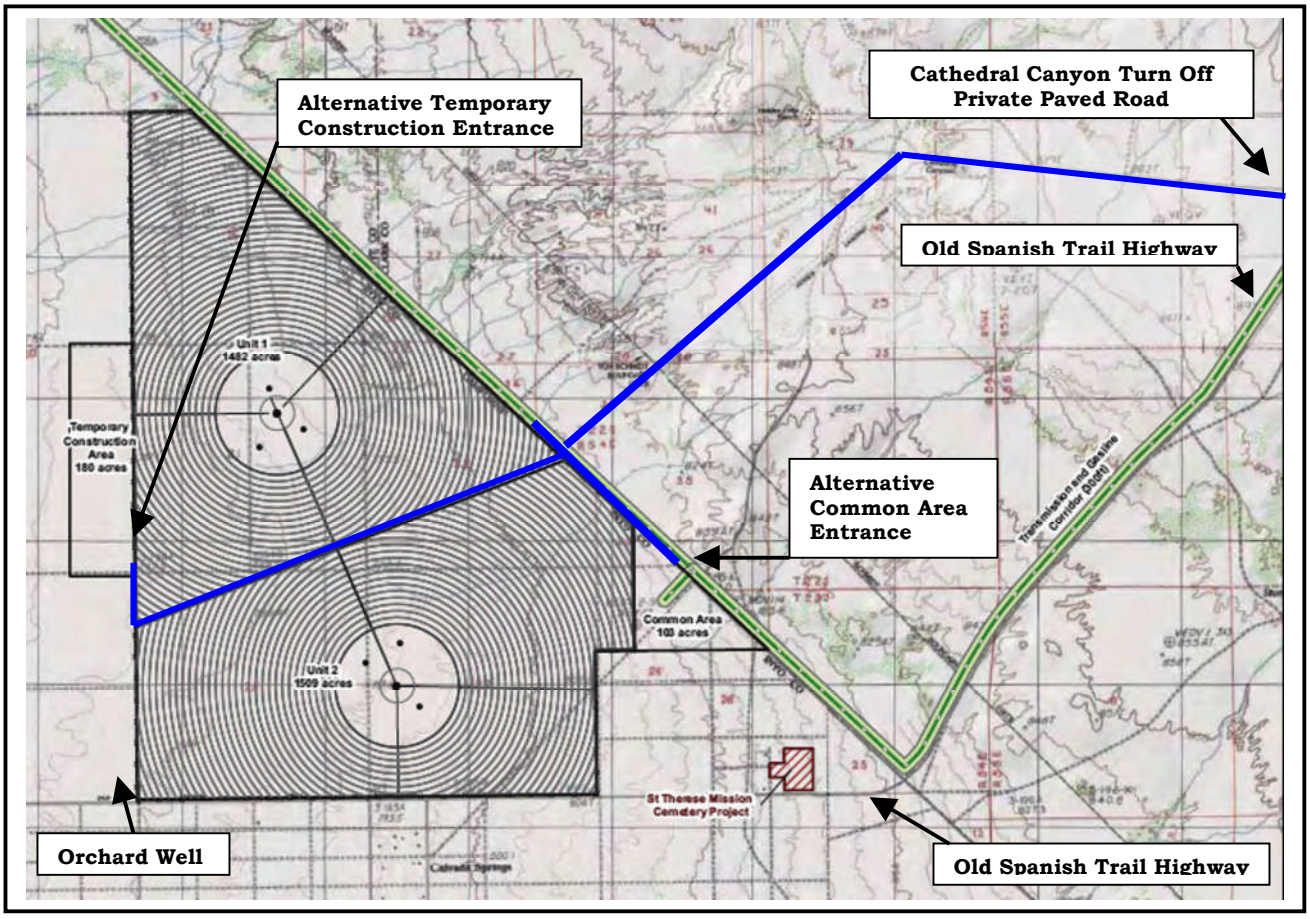
Instead of the transmission system and gas pipeline entering the site from the Old Spanish Trail Highway on the California side of the border, entry could also be obtained on the Nevada side of the Old Spanish Trail Highway at the juncture of a private road formerly used to access Cathedral Canyon. This road (shown right) is located 5.5 miles from Orchard Well and while not complete, could be developed to lead directly into the project site.

The road is owned and controlled by the same parties who are leasing the land to applicant and therefore, they have complete control to authorize the construction and maintenance of a private road to access the site.

The exact same resolution was utilized during the development of the Front Site Gun Range, where the owners created their own private road to access the site.

Front Site Road. A privately developed and maintained road connecting to the Old Spanish Trail Highway that allows site access with no costs or liability to the County or the State.

It could also be reasonably incorporated into the proposed projects design with minimal adjustments as illustrated in the following map.



Map Source: Hidden Hills SEGS, Supplemental Data Response, Set 2, TN-64558, Figure 1. pp. 318 (pdf. file)

= Alternative Route

VISUAL RESOURCES

"It was a pretty big year for predators
The marketplace was on a roll."

17. VISUAL RESOURCES

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1. NIGHTTIME VISUAL RESOURCE IMPACTS

Background

While a significant amount of focus has centered on potential daytime visual resource impacts, little to no analysis has focused on potential nighttime visual resource impacts.

For example, due to the extremely limited amount of human introduced lighting in this remote area, light from a full moon is capable of illuminating the entire valley floor to such an extent that, as a child I use to go running through the desert to "jump bushes" (not on roads) and was fully capable of seeing all aspects of the ground because of the light intensity that still exists due to the lack of human light pollution.

During new or dark moons, nighttime skies relatively free of human light pollution reflect a vast degree of stars not visible in cities or areas of industrial activities.

Questions

1. Since heliostats will be in the "safe position" at night (horizontal), what is the projected increase and/or magnification of light pollution in the area during times of full moons and how far will this illumination extend throughout the Pahrump Valley?

2. Will there be any visual "glow" from the power towers if the plant is operational after the sun sets? If so, what will it look like, what magnitude would it be, how far away will it be visually "disruptive" across the landscape and how long will this extend throughout the night?

2. CALIFORNIA BLM VISUAL RESOURCE CLASS

Background

In some of the visual resource discussions, Staff and/applicant has included the Nevada BLM resource class category for the proposed project vicinity. However, the proposed project is in California and also surrounded by vast tracks of California BLM land.

Questions

1. What are the visual resource category for the BLM land in California that surround the proposed project site?

3. AVIAN ATTRACTANTS: NON-NATIVE PERIMETER TREES

Background

The applicant intends on planting non-native "trees" along the perimeter fence to screen project facilities(1). These non-native trees will be a wildlife attractant, especially so for birds. Given the fact that the heliostat mirror field is considered lethal to birds and the majority of wildlife now inhabiting the area will be removed due to project operations, it is inappropriate to plant trees or tall vegetation to screen the proposed project to reduce visual impacts to humans at further expense to local wildlife and migratory birds.

Questions

1. Are there other ways that the applicant can "screen" the perimeter besides trees or other vegetation that won't be an attractant to birds, insects or other wildlife?

2. Approximately how many of these non-native trees would be required to screen the perimeter and what would be their annual water requirements over the life of the project?

4. HELIOSTAT/MIRROR STRUCTURES: GLINT, GLARE AND NATIVE SOILS

Background

It is currently my understanding that the heliostat/mirror assemblies will be strictly controlled by a state of the art computer program capable of coordinating mirror movement and positioning, which in turn prevents adverse visual resource impacts and eliminates any chance of public safety risks to passing motorists, recreational viewers and residents.

Throughout the glint and glare analysis, the assurances regarding the accuracy and safety of this critical component of proposed project were centered around computer modeling that assumed perfect stability of heliostat/mirror assemblies over the life of the project.

However, if one were to consider the properties of the native soils the heliostat/mirror assembly structures will be anchored in, the evidence indicates perfect heliostat/mirror stability will not be maintained over their lifetime and larges sections of the heliostat/mirror assemblies may potentially be subject to shifting, sinking and/or collapse during times of soil saturation.

For a more complete background and analysis on issues related to project siting with respect to native soil properties, please review the section, "Soils and Surface Waters, Soils: General", of these comments. This section also includes photos of a van in "storage" and placed up on blocks that sunk to its axle after a local rain event saturated the soils around it.

(1) 2012-05-07 Applicants Data Response Set 2E, TN-65092, Data Response #182, pg. 9.

Questions

1. If native soils cause heliostats to shift, sink and/or collapse due to soil saturation, how will the applicant control glint and glare and prevent adverse visual effects?

2. Is there any way through modeling to predict the worst-case scenario of the number of heliostat/mirror structures that could shift, sink and/or collapse due to soil saturation?

3. Is the computer software that will control the heliostat/mirror assemblies capable of accounting for and/or adjusting heliostat/mirror assemblies in the event of they shift, sink and/or collapse?

5. HELIOSTAT/MIRROR STRUCTURES: CATASTROPHIC STORM EVENTS

Background

The proposed project will be sited at the bottom of an alluvial fan system, below a clearly defined ridge carved from storm events and in between this ridge and Stewart (dry) Lake, where storm water from this alluvial fan system eventually flows to.

During the AFC and siting process of the Ivanpah SEGS, the BLM performed storm water modeling for heliostat/mirror assemblies in efforts to predict possible adverse impacts resulting from its siting at the base of an alluvial fan system such as the HHSEGS will be sited on. Results of that modeling indicated a severe storm event was capable of causing "catastrophic" adverse impacts of up to 18,000 heliostat/mirror assemblies (or more) being dislodged and washed "down stream" due to extreme flooding.

Despite this, though the CEC Staff currently acknowledges possible adverse impacts due to severe storm water events, they are currently recommending only modeling site-specific impacts of storm water events affecting the HHSEGS only after project approval.

For a more complete background and analysis on issues related to project siting with respect to native soil properties, please review the section, "Soils and Surface Waters, Alluvial Fans: Significant Impacts", of these comments.

However, in summary, Staff is aware of the potential for heliostat/mirror assemblies to be dislodged due to storm water runoff and flooding as well as projecting a certain degree of broken mirrors, both within the heliostat frames as well as littering the ground.

Given these expectations, it is reasonable to conclude that at best, a certain percentage of mirrors and mirror fragments/shards will not conform to the state of the art software that controls their glint and glare. At worst, it is possible that tens of thousands of mirrors will be jumbled and askew through their dislodgement after a severe storm event.

Questions

1. What are the potential adverse visual affects from glint and glare as a result of broken mirrors contained within the heliostat/mirror assemblies?

2. Is there anyway to predict the degree of broken mirrors in the heliostat/mirror assemblies during normal operations?

3. Does the computer software have the ability to control glint and glare positioning in the event mirrors in the heliostat/mirror assemblies are broken?

4. What are the visual effects of broken mirrors and/or mirror shards that are littered on the ground? Obviously, if mirror shards fall straight down and lie flat on the ground, it would only be aesthetically displeasing. However, if they don't lie flat and lodge themselves at angles, what are the visual impacts and can they affect public safety by impacting motorists on the nearby Old Spanish Trail Highway?

5. In the event a "catastrophic" storm event dislodges tens of thousands of mirrors, what would be the potential adverse impacts with respect to glint and glare from the broken and displaced mirrors?

6. Due to high level wind events and "gusts" known to occur in the area, what are the potential impacts of glint and glare resulting from broken mirrors, mirror fragments and mirror shards due to wind damage?

WASTE MANAGEMENT

"And the land of opportunity
Spawned a whole new breed of men without souls."

.

18. WASTE MANAGEMENT

This is the second comment submission regarding the Application for Certification for the proposed Hidden Hills Solar Electric Generating System (11-AFC-02). This submission should be considered supplemental too, but not a replacement of, the first submission. All page numbers cited are from the pdf. format and do not represent the actual page numbers specific to the documents.

1. SEPTIC TANKS/LEACH FIELDS: INDUSTRIAL ZONING COMPLIANT?

Background

The applicant intends to use onsite septic tanks and leach fields for waste disposal, citing the practice is commonly utilized for domestic purposes. However, it is unclear if a septic tank/leach field system is allowable under areas zoned for industrial use in the Inyo County General Plan or related zoning laws and/or ordinances.

Questions

1. What are the applicable LORS regarding waste disposal requirements for industrial zones in the Inyo County General Plan or related zoning laws and/or ordinances?

2. Do California and/or Inyo County allow industrial facilities to discharge wastes that could potentially seep into underground water tables residing below the proposed project site?

3. If so, are there any restrictions on what can be discharged into leach fields and under what authority (LORS) are these restrictions established?

2. SEPTIC TANK WASTE DISPOSAL: CONFLICTING DATA

Background

The applicant intends to use septic tanks and leach fields for sanitary waste disposal at the administrative building and Solar Plant I and II. However, the CEC Staff has presented conflicting descriptions and analysis regarding waste disposal as illustrated in the two quotes below.

> *"Each solar plant and the administration complex (located in the common area) will include a septic tank and <u>leach field system</u> for sanitary water streams."*(1) [Emphasis added.]

> *"No pipeline is needed because reject wastewater and <u>septic tank waste would both be trucked offsite."</u>* (2) [Emphasis added.]

(1) CEC Preliminary Staff Assessment, Waste Management, pg. 798.
(2) CEC Preliminary Staff Assessment, Waste Management, pg. 803

"To prevent the discharge of untreated industrial wastewater or untreated sanitary wastewater from entering nearby water resources, HHSEGS would transport the reject from the thermal evaporator and the sanitary waste from the septic tanks to approved facilities for offsite disposal. (See "Operations Wastewater" and "Sanitary Wastewater" discussions below.)"(1) [Emphasis added.]

As described in the first quote, a leach field system allows the sanitary wastes collected in the septic tanks to flow out and leach into the surrounding soils for disposal. This is obviously different than pumping out the septic tanks for offsite waste disposal.

By presenting conflicting accounts of how sanitary wastes will be disposed of, it makes it impossible to ascertain how sanitary wastes will be disposed of or to determine any significance of impacts and corresponding appropriate mitigation measures. This fact is readily apparent in the last quote taken from the Soils and Surface Waters section of the CEC Preliminary Staff Assessment as Staff anticipates no significant impacts to water resources due to septic tank discharge being trucked offsite for disposal. However, if septic tank discharge is allowed to leach into the surrounding soils, it can obviously be capable of impacting water and soil resources in the proposed project's vicinity.

Of additional concern is, no one has seriously explained, explored, analyzed or discussed the actual engineering design of the applicant's proposed waste disposal system at Solar Plant I or Solar Plant II. The applicant has described a series of interconnecting pipe systems that will handle various wastes associated with plant operations, which also include drainage systems that route to different processors and collection tanks, but this system never specifically identifies if any of the plant operation systems will potentially be linked to the septic systems and leach fields.

Questions

1. What waste disposal system is going to be utilized for the proposed HHSEGS, septic tanks with leach fields or septic tanks without leach fields that require sanitary wastes to be disposed of offsite?

2. If the septic tank/leach field system is utilized, what are the impacts of discharging this waste into the surrounding environment such as soils and above local water tables?

3. Since no detailed description or critical analysis has yet to occur regarding the engineering and design element of the pipe and drainage systems in relation to the septic tank/leach field waste disposal systems, how can the CEC Staff and/or public know if hazardous wastes and semi-hazardous wastes can potentially be disposed of and discharged into the surrounding environment via the septic tank/leach field system?

(1) CEC Preliminary Staff Assessment, Soils and Surface Waters, pg. 586

4. What data is available that can confirm no hazardous or semi-hazardous materials will be disposed of via the septic tank/leach field system?

5. Where is the engineering design description in the AFC project data (or subsequent documents) that clearly depicts the septic tank/leach field systems will only be connected to toilets, showers, and sinks associated exclusively with domestic type waste disposal?

6. If the septic tank/leach field system is utilized, what mitigation measures can be used to prevent potential soils and underground water systems from being effected by cumulative waste discharges over the life of the proposed project?

7. Would Staff recommend as a Condition of Certification, the allowance of onsite septic tanks but eliminate the connected leach fields to ensure the applicant would have to dispose of all wastes offsite versus allowing wastes to seep into local soils and groundwater over the life of the project?

3. LESS THAN SIGNIFICANT IMPACT DETERMINATIONS: AVOIDANCE OF SITE SPECIFIC ANALYSIS
Background

The CEC Staff provides an analysis of approximate solid and hazardous wastes that will be generated by the proposed project in relation to its disposal at appropriate waste disposal sites as highlighted below.

> *"The existing available capacity for the three Class III landfills that may be used to manage nonhazardous project wastes exceeds 53 million cubic yards. The total amount of nonhazardous wastes generated from construction and operation of the proposed HHSEGS Project would consume less than 1 percent of the remaining landfill capacity. Therefore, disposal of project generated nonhazardous wastes would have a less than significant impact on Class III landfill capacity."*(1)

> *"In addition, the two Class I disposal facilities that could be used for hazardous wastes generated by the construction and operation of the HHSEGS Project have a combined remaining capacity in excess of 10 million cubic yards. The total amount of hazardous wastes generated by the HHSEGS Project would consume less than 1 percent of the remaining permitted capacity. Therefore, impacts from disposal of HHSEGS generated hazardous wastes would also have a less than significant impact on the remaining capacity at Class I landfills."*(2)

The above analysis used to issue a less than significant impact determination regarding generated waste of the proposed project relies on ignoring the site-specific impacts and instead, extends the impacts to regional analysis only.

(1) CEC Preliminary Staff Assessment, Waste Management, pg. 811.
(2) CEC Preliminary Staff Assessment, Waste Management, pg. 812.

Questions

1. What is the percentage of increases for solid and hazardous waste generated by the proposed project compared to currently generated solid and hazardous wastes within a six-mile radius of the proposed project's vicinity?

2. Based on a site specific analysis of generated wastes resulting from the proposed project should it be approved compared to currently existing generated wastes within a six-mile radius of the proposed project, would the CEC Staff still find impacts of solid and hazardous wastes increases less than significant?

4. OUT OF STATE WASTE DISPOSAL: A CUMULATIVE TREND

Background

Due to the remote location the proposed project will be sited in, California is not capable of reasonably accommodating solid disposal. As a result, the majority of waste generated from the construction and operation of the HHSEGS will need to utilize out of state services, systems and facilities as described below.

> *"The HHSEGS project owner plans to export construction waste to Nevada*."(1)
>
> *"There is no landfill capacity for disposal of commercial or industrial waste in Inyo County."*(2)
>
> *"The solid waste landfill closest to the project site is the Tecopa Landfill. The Tecopa Landfill is currently unmanned and does not have the infrastructure to accept waste from the HHSEGS project. Waste will be disposed in Nevada, however, the project is located in California and recycling and disposal is under the authority of CalRecycle. Solid waste from the project will be disposed of in Nye or Clark County Nevada in a Nevada Class III landfill (HHSG 2011a, page 5.14-18)."*(3)

As with everything else regarding the projects required infrastructure needs, services are not available in California for solid waste disposal. Approval of the proposed project without necessary funding to establish adequate infrastructure services in the project vicinity will only continue to increase California's dependence on Nevada to facilitate public services that are ultimately, California's responsibility. This also simultaneously prevents necessary infrastructure growth that in turn would lead to long-term economic benefits to California versus continuing the trend of displacing those same economic benefits to Nevada instead.

(1) CEC Preliminary Staff Assessment, Waste Management, pg. 803.
(2) CEC Preliminary Staff Assessment, Waste Management, pg. 809.
(3) CEC Preliminary Staff Assessment, Waste Management, pg. 806.

Questions

1. What is the cumulative significance of continuing to place undue burdens on the State of Nevada to fulfill California's waste disposal obligations for the projects it approves?

2. If the proposed project is approved, it can potentially cause cumulative growth inducing impacts to the area, none of which can be serviced by Inyo County or the State of California. At what point will California take responsibility for the wastes generated in this area and develop adequate infrastructure components to address the areas needs?

5. HAZARDOUS WASTE DISPOSAL: JURISDICTIONAL IMPACTS?

Background

Currently, the state that will handle the disposal of hazardous waste has not yet been identified. According to the CEC Preliminary Staff Assessment, three sites are listed as most likely to be utilized for hazardous waste disposal, one in Nevada and two in California.

If Nevada disposal sites are utilized, it continues to shift the burden of infrastructure requirements of the proposed project to out of state facilities. If California disposal sites are utilized, it triggers the following identified issues.

Site access is available through existing roadways, which include the Nevada based SR160, the California based Highway 127 and the Old Spanish Trail Highway (Tecopa Road), the only direct access road to the proposed project site in both Nevada and California. However, while SR160 is sufficiently built to support the projected increases in delivery trucks and worker travel, Old Spanish Trail Highway is not. It will require complete repaving on both the Nevada and California side for a minimum estimated distance of approximately 13.2 miles (9.8 miles from the Nevada State Line to SR160(1) and 3.4 miles from the California State line to the west entrance of the proposed project site(2).)

Currently, planning efforts indicate 100% of truck traffic will be routed through the Nevada based SR160/Old Spanish Trails Highway juncture to access the proposed project site, even if those trucks initially departed from California. This route has been recommended as a proposed mitigation measure in efforts to offset significant public safety hazards associated with Emmigrant Pass. It will also circumvent repaving costs of $8.1 million dollars(3) because the current condition of the Old Spanish Trail Highway is wholly inadequate to sustain the severe truck loads associated with the construction and operations of the proposed project.

California based truck deliveries will share the common denominator of having to travel through Baker, CA, whether they utilize the Nevada based route or the California based route.

(1) AFC files, Natural Gas Supply, pg. 1
(2) Staff's Fiscal Impacts Study, TN-65530, Socioeconomic and Fiscal Impacts of the HHSEGS of Inyo County, pg. 22
(3) 2012-02-22 Letter Re: Socio Economic Impacts To Inyo County, TN-63719, pg. 3.

If truck deliveries associated with the construction and operation of the proposed project do not utilize the Nevada based SR160 access route, the only other option to connect to the Old Spanish Trail Highway is by utilizing Highway 127, which begins at Baker, CA. This juncture is located 77.8 miles from Tecopa(1) , which is approximately 30.1 miles away from the proposed project site(2). All total, the California route to the site is approximately 108 miles from Baker, CA.

If truck deliveries utilize the California to Nevada based route as is currently be proposed, trucks will travel 94 miles(3) to reach Las Vegas and then an additional 45 miles(4) to the project site through the SR160 route. All total, the California/Nevada route is approximately 139 miles.

TABLE 2. MILES TO HHSEGS PROJECT SITE

FROM CA I15	TO	# OF MILES
BAKER/HWY 127	TECOPA	77.8
TECOPA	PROJECT SITE	30.1
BAKER	LAS VEGAS	94
LAS VEGAS	PROJECT SITE	45

However, hazardous waste transport under California Vehicle Code, Section 31303, requires that hazardous materials be transported utilizing the shortest overall transit time and trucks are the sole source of transport method for hazardous materials. If the applicant transports hazardous materials to the site from California using the Nevada based route as is so far proposed, it results in 31 miles of hazardous materials transport that the California based route would eliminate.

This obviously presents a significant conflict with the proposed mitigation route of using SR160 solely for truck deliveries. Alternately, if hazardous materials are transported via the shorter route using Highway 127, the well-acknowledged dangers to public safety by routing trucks through Emmigrant Pass will result in substantially higher risks - and those risks are the root of why the CEC Staff recommend the exclusive use of SR160 for truck deliveries as well as reducing the significant costs associated with repaving necessary to insure adequate road conditions.

(1) SOURCE: BAKER JUNCTION/HWY 127 to TECOPA: Google Maps at: maps.google,com
(2) TECOPA TO PROJECT SITE: Ltr. From Inyo County Public Works to CEC, 2/16/12
(3) BAKER TO LAS VEGAS: Travel Math http://www.travelmath.com/drive-distance/from/Las+Vegas,+NV/to/Baker,+CA
(4) LAS VEGAS TO PROJECT SITE: CEC Hidden Hills Home Page, http://www.energy.ca.gov/sitingcases/hiddenhills/

Questions

1. Based on the identified issues surrounding site access in relation to adequate roadways and California Vehicle Code, Section 31303, is the only viable disposal site for hazardous wastes located in Nevada?

2. What are the fiscal impacts to Inyo County for continually having to pay Nevada for infrastructure service support such as the utilization of Nevada sites for hazardous waste disposal?

3. Are Nevada LORS comparable and/or equivalent to California LORS requirements for hazardous waste disposal?

4. Are there any identified jurisdictional issues between Nevada hazardous waste LORS and California hazardous waste LORS that cannot be resolved?

5. What jurisdiction, if any, does the CEC have regarding ensuring Nevada is willing to accept all Conditions of Certification for waste disposal should the proposed project be approved?

6. Will the CEC Staff do a complete review of Nevada hazardous materials LORS and initiate pre-project approval agreements with all relevant agencies to ensure that hazardous wastes will be adequately and appropriately disposed of?

6. OPERATION WASTE MANAGEMENT PLAN

Background

Currently, it appears that waste management plans for the construction and operation of the proposed project will be fully developed only after project approval, despite potentially significant jurisdictional issues, utilizing out of state services to ensure project waste disposal compliance and potential differences in Nevada versus California LORS. This fact is illustrated below as are some of the additional increases in regulatory efforts, burdens and requirements that will be necessary to resolve should the proposed project be approved.

> *"Before operations can begin, the project owner should be required to develop and implement an Operation Waste Management Plan pursuant to proposed Condition of Certification WASTE-5. This would facilitate proper management of project operation wastes by requiring the applicant to identify the type and volume of waste, and waste disposal and recycling methods to be used, during operation of the facility."*(1)

(1) CEC Preliminary Staff Assessment, Waste Management, pg. 804.

"Because of the potential negative impact on Inyo County's 50 percent equivalent per capita disposal rate during the construction of the HHSEGS, Cal Recycle will require that the applicant participate in Inyo County's Monitoring and Diversion of Construction and Demolition Debris Program. This will include the applicant providing a construction and operation waste management plan that would require approval by the Energy Commission's compliance project manager (CPM) and review by Inyo County. The project owner should also submit a plan to the CPM and County as to how it will divert, to the maximum extent feasible, the recyclable materials that are generated during operation at the facility (total materials generated is estimated to be 1,600 cubic yards per year)."(1)

Questions

1. Given the complexity surrounding solid and hazardous waste disposal generated by the proposed project in relation to the lack of infrastructure for waste disposal in the project vicinity, does the CEC Staff consider the necessary negotiations, resolutions, mitigation measures, regulatory efforts and fiscal impacts to be a significant disadvantage of siting the proposed project at this location?

2. Does the CEC Staff believe that all significant and potentially significant issues surrounding solid and hazardous waste disposal can be successfully resolved prior to project approval or will these issues only be vetted during the development and approval of the Operation Waste Management Plan?

7. ON SITE TEMPORARY WORKER HOUSING

Background

In the CEC Staff Socioeconomic and Fiscal Impacts of the HHSEGS of Inyo County, several references were made to increased revenue resulting from a "transient tax", which indicated this revenue may be generated as a direct result of the proposed project.

In the CEC Preliminary Staff Assessment, the proposed mitigation measure quoted below also indicates that additional development and plans are potentially being laid by the applicant, may be known about by the CEC and Inyo County, but are failing to be disclosed to the public or evaluated under CEQA analysis.

"SOILS-8: Use of the permanent facility septic systems and leach fields for onsite disposal of domestic wastes generated <u>from temporary worker housing</u> is prohibited without prior approval from the CPM." (2) [Emphasis added.]

Based on the available evidence, it can be assumed that the transient tax is expected to be generated from temporary worker housing located on or in the proposed project vicinity.

(1) CEC Preliminary Staff Assessment, Waste Management, pg. 809.
(2) CEC Preliminary Staff Assessment, PSA CEC 708-2012-003_5-25-12, Soils and Surface Hydrology, pg. 606.

The following quote from the CEC Preliminary Staff Assessment, Waste Management, would also indicate there may be potentially unresolved issues related to onsite temporary worker housing and solid waste disposal requirements that would coincide with this temporary housing.

> *"There is also one unresolved issue related to the potential cost to Inyo County for increased municipal waste generation and removal during construction from the influx of HHSEGS workers temporarily commuting to and from, or living in, Inyo County. The Inyo County Waste Management Department has been talking to the applicant and Energy Commission staff regarding the potential impacts of the incoming construction worker waste and will further discuss the issue during an upcoming PSA Workshop to be held in Pahrump, Nevada, on June 14-15, 2012."*(1)

If the proposed projects approval may result in temporary worker housing during the construction phase of the project, this fact needs to be appropriately included, discussed and evaluated for potential impacts during the CEQA equivalency process.

Additionally, based on the "Energy Commission Staff Schedule Preliminary Staff Assessment Workshop Agendas"(2), the projected discussion needing resolution as referred to above, failed to be scheduled for discussion. Therefore, the details of what this discussion included and/or how it was resolved or even if it was resolved, remains unknown.

Questions

1. Can the CEC know about the potential inclusion of temporary worker housing at or near the proposed project site -not include any data, analysis, potential impact discussions or proposed mitigation measures under CEQA equivalency requirements – and still approve the siting of the proposed project?

2. Should temporary worker housing be utilized on or near the proposed project site, what is the maximum number of units that would be authorized and what would be their corresponding waste disposal needs?

3. Was the unresolved issue of municipal waste generation ever discussed at either workshop held in June? If so, what were the details of that discussion, what did it cover, what impacts were identified, what volume of wastes were projected from temporary construction worker influx, and what costs were associated with this waste disposal?

(1) CEC Preliminary Staff Assessment, Waste Management, pg. 812.
(2) http://www.energy.ca.gov/sitingcases/hiddenhills/notices/2012-06-13_Staff_Schedule_and_psa_workshop_agendas.pdf

8. CHEMICAL CLEANING FLUID DISCHARGE: DUST CONTROL

Background

The applicant is projecting the use of 200,000 to 400,000 gallons of water previously used for pipe cleaning and described as "chemical cleaning fluid waste" that will be discharged into the surrounding environment for dust control as illustrated below.

> *"Table 5.14-2 of the Application for Certification estimates that there will be 200,000 to 400,000 gallons of passivating and chemical cleaning fluid waste used for pipe cleaning and flushing. There is also a note in the AFC that the fluid will be sampled, and if the fluid is clean, the fluid will be discharged to the surrounding area for dust control."*(1)

Based on the above, it appears the applicant will be counting on this "recycled" water for dust control whether the fluid samples indicate the water is clean enough for discharge or not.

Questions

8. How can the 200,000 to 400,000 gallons of recycled water be counted on for dust control if its discharge depends on the fluid sample levels of contamination?

9. What happens to this recycled water if it fails to register as "clean"? How will it be disposed of?

10. Will the applicant just dilute the recycled water until it registers as "clean"? If so, how much additional water would this require?

11. If the fluid samples fail to register as "clean" and the applicant dilutes it with additional water until it can register as clean enough for discharge, isn't the same amount of "non-clean" chemicals being discharged into the environment? If so, what is the cumulative affect of this discharge to soil, water and biological resources over the life of the proposed project?

(1) CEC Preliminary Staff Assessment, Waste Management, pg. 803.

WATER RESOURCES

“And the devil is downhearted
Because there's nothing left for him to claim.”

19. WATER RESOURCES

This is the second comment submission regarding the Application for Certification for the proposed Hidden Hills Solar Electric Generating System (11-AFC-02). This submission should be considered supplemental too, but not a replacement of, the first submission. All page numbers cited are from the pdf. format and do not represent the actual page numbers specific to the documents.

1. WATER RESOURCES: GENERAL

Background

With respect to the water resources and availability in the proposed project area, there are many levels of concern regarding the current data, testing and proposed mitigation measures that so far, have not been sufficiently addressed.

The first is the well-known historical issues associated with the Pahrump Valley's Ground Water Basin, which have been in a state of overdraft for decades. This direct overdraft is compounded by tens of thousands of acre-feet per year that are already allocated under Nevada water right laws that are currently not in use – but they could be.

The second is the lack of available data regarding ground water resources in the proposed project area, the limited data the applicant's well pump test produced, the lack of consistent application and methodology used by the applicant during the well pump tests (varying pump rates, well depths and limited duration), and of course, the variances in conclusions between how the applicant and the CEC Staff interpreted that limited data with respect to the proposed projects potential impacts.

The third significant level of concern grows from the last two areas discussed above. Despite limited data, unsatisfactory test results, historical and current issues surrounding the aquifer's overdraft and consistent decline, uncertainty regarding where and how the water is recharged, and potentially significant impacts to water dependent resources in the area, etc., Staff continues to propose "mitigation measures" that predominately require the applicant to produce data and develop plans for mitigation only after project approval.

Each level of questions and concerns cumulatively intertwine into one, giant question mark regarding the proposed projects impacts to water. The proposed mitigation measures do little to alleviate those questions prior to approval or concretely resolve known issues. Unfortunately, the current plan seems to entail little more than, "*We don't really know, so we will approve the project and if it makes any impacts, then we will shut it down."*

2. WATER USE OFF SET PLAN: WATER SUPPLY-1

Background

In the CEC's Preliminary Staff Assessment, Water, Proposed Conditions of Certification, Water Supply-1, Staff proposes the applicant develop plans to offset project impacts to the Pahrump Valley Ground Basin if the proposed project is approved.

First off, those affected by this Water Use Off Set Plan will never see these plans nor have any input regarding their implementation or adequacy.

Secondly, this yet-to-be-developed Water Use Off Set Plan will only be evaluated for its compliance with LORS after the proposed project is approved. It seems to me ***at best***, it is inappropriate to determine LORS conformance of the Water Use Off Set Plan outside the AFC and/or CEQA equivalency process and evaluating its potential problems, levels of significance, and whether it can even developed in compliance with applicable LORS only after the proposed project is approved.

Third, while Staff proposes the applicant secure even more water rights as a Condition of Certification, they fail to stipulate any retirement of those water rights over the life of the project. With respect to this issue, it is admittedly gray as Staff describes the mitigation measures as "replacing water" versus preventing water from being withdrawn.

Questions

1. Given the critical nature of water resource availability in the Pahrump Valley Ground Basin, why does the CEC Staff believe it is appropriate to develop plans to resolve these issues outside the CEQA equivalency process and public review?

2. Under what authority is the CEC Staff exempt from reasonably developing the Water Use Off Set Plan mitigation measure during this CEQA equivalency process, which should include analyzing levels of significance, compliance with LORS and effectiveness of mitigation measures to reduce impacts?

3. What is the projected zone of impact this Water Use Off Set Plan will be developed for?

4. What are some reasonably available measures or activities the applicant might employ in this Water Use Off Set Plan that would "replace" 4,900 acre-feet or 163 AFY over the life of the project?

5. Does the 4,900 acre-feet or 163 AFY apply per year of operation or will it just be required as a one-time replacement value sometime during the 30-year life of the project?

6. Does the 4,900 acre-feet or 163 AFY only apply to the operational portion of the proposed project or does it apply to the construction portion of the project as well?

7. Why did Staff stipulate “replacing water” versus “retiring water” rights and what is the difference?

8. If the applicant is required to increase their right to an additional 4,900 acre-feet or 163 AFY of water without retiring it, would this mean the applicant will be authorized to use approximately 303 AFY if the proposed project is approved?

3. ADDITIONAL ACREAGE AND EXISTING WATER RIGHTS

Under the current terms of the lease agreement, the applicant will potentially have control of over two-thirds more acreage (6,773 acres) than is required for the proposed project (3,227 acres).

The party with whom the applicant will lease this acreage from also owns a significant amount of additional land on both the California and Nevada side of the border with much of this land surrounding the project site boundaries and the other 6,800 acres the applicant will lease.

Questions

8. What jurisdiction, if any, does the CEC have over both the entire 10,000 acres the applicant will be leasing and its associated water rights?

9. What is the current approximate water value and/or rights in terms of acre-feet-per-year that is associated with the 6,800 additional acres that is part of the applicant’s lease agreement?

10. Can the CEC assume jurisdiction over this additional acreage and its associated water resources as a Condition of the Permit, even if the proposed project is not directly active on this portion of the site?

11. While the CEC may be able to impose direct limits on water use for the proposed project itself, can the CEC also impose limits on water use regarding the other 6,800 acres that will not be directly a part of the HHSEGS construction and operations?

12. If the CEC has no jurisdiction over the other 6,800 acres, will the applicant and/or landowner be capable of developing this acreage and its associated water rights in any manner they see fit without restrictions or limitations if the proposed project is approved?

13. What are the reasonably foreseeable impacts of the applicant’s control of this additional acreage if no restrictions or limitations are incorporated as a Condition of the Permit? Topics may include additional development adjacent to the project site such as temporary worker housing, permanent residential housing, commercial development and/or industrial development, growth-inducing impacts, increased water demand, etc.

14. Should the current landowner, which is merely leasing the project site to the applicant, choose to induce growth and capitalize on the proposed projects approval on the additional lands he owns surrounding the proposed project site, what control, if any, does the CEC have with respect to limiting or restricting that landowners development of the area and the associated water requirements necessary for that growth?

4. THE HIDDEN PROJECT OF HIDDEN HILLS

Background

On June 30, 2009, the Mary Lee Wiley Trust Fund submitted four applications to the Nevada State Engineer to divert current water rights to a new location (see Appendix I). The purpose of the diversion was classified as "agriculture crops".

On November 18, 2010, the Nevada State Engineer approved all four applications for a total of 211 acre-feet per year.

Steven Scow, executor of the Mary Lee Wiley Trust Fund and leaser of the proposed project's property, has testified before the California Energy Commission in favor of the proposed project but has failed to inform the CEC and/or Staff regarding this additional project that will impact the areas water resources.

It is also possible that the applicant was aware of this agricultural project as well but failed to inform the CEC of this significant fact. If not, at least it indicates critical information was withheld from the applicant and there is no guarantee it would not happen again.

While it is currently unclear what the Mary Lee Wiley Trust Fund intends to do with this 211 AFY or why Mr. Scow or Bright Source Energy has yet to notify the CEC and/or Staff of this additional irrigation project, what is clear is up to 211 AFY of water withdrawal has yet to be factored into the reasonably foreseeable uses of water in the proposed project's vicinity.

In the event these applications were filed in anticipation of the Application For Certification, there are two immediate priority issues that must be addressed. First, none of the applications state the water will be used for the generation of power. Second, if it is either Mr. Scow's or the applicant's intention to use this water in any manner to support the construction or operation of the HHSEGS without accurately describing its use, it will be in violation of NRS 533.372.

> NRS 533.372
> Approval or rejection of application to use water to generate energy for export. Based upon the public interest and the economic welfare of the State of Nevada, the State Engineer may approve or disapprove any application of water to beneficial use or any application which contemplates a change in the place or beneficial use of water to a use involving the industrial purpose of generating energy to be exported out of this state.

Questions

1. What impacts will this additional project have on water withdrawal in the project vicinity?

5. COMPLIANCE WITH LORS: JURISDICTIONAL EVASION

Background

In the CEC Staff's Water Supply section, Staff issues a Proposed Findings of Facts(1), one of which includes,

> "*The proposed HHSEGS site would pump groundwater from the PVGB.*"

Staff concludes the Water Supply section and their findings by stating:

> *"With implementation of the Conditions of Certification listed below, the proposed HHSEGS project would comply with all applicable LORS, and would not result in any unmitigated significant impacts related to WATER SUPPLY resources."*(2)

In the WATER SUPPLY-1(b) proposed Conditions for Certification, Staff adds the stipulation that:

> *"b. Demonstration of the project owner's legal entitlement to the water or ability to conduct the activity; and"*(3)

While Staff concludes that the proposed conditions of certification would result in compliance of all applicable LORS, the proposed project targets waters predominately and historically used and managed by the state of Nevada, which the CEC has no jurisdiction over. Despite this, Staff then ignores potential jurisdictional water issues by drafting mitigation measures that would fail to comply with the Nevada Revised Statutes that govern and regulate the same water the proposed project will use.

With respect to the project owner's legal entitlement to the water or ability to conduct the activity as set forth in Water Supply-1(b), almost every activity that intends to use water from the Pahrump Valley Ground Basin (or anywhere else in Nevada) requires that the proposal receive authorization from the Nevada State Engineer.

One of the many purposes of the Nevada State Engineer's oversight and authorization regarding state waters is to insure that cumulative impacts don't result in significant threats to the public trust values of water management and allocations.

(1) CEC Preliminary Staff Assessment, PSA CEC 708-2012-003_5-25-12, Water Supply, pg. 851
(2) CEC Preliminary Staff Assessment, PSA CEC 708-2012-003_5-25-12, Water Supply, pg. 853
(3) CEC Preliminary Staff Assessment, PSA CEC 708-2012-003_5-25-12, Water Supply, pg. 854

The proposed HHSEGS will circumvent this oversight and cumulative impact analysis by the Nevada State Engineer, as well as circumventing applicable Nevada LORS and authorizations.

All documents relating to the proposed HHSEGS have never waivered from the continuous legal position that the CEC has no authority or jurisdiction over the State of Nevada or federally controlled lands.

Simultaneously, the CEC Staff and applicant have assumed jurisdiction and authority over the Pahrump Valley Groundwater Basin by deliberately proposing to target the withdrawal of shared state waters predominately used in Nevada for the construction and operation of the HHSEGS for purposes deemed beneficial to California alone; and they are doing so without even trying to negotiate an interstate agreement for this kind of diversion or in consideration of stipulations set forth in NRS 533.520.

NRS 533.520

Application for permit to appropriate water for use outside State; change point of diversion for use outside State or change place of use to location outside of State; approval of application by State Engineer; conditions.

1. Any person who files an application for a permit to appropriate water from above or beneath the surface of the ground for use outside this State, or to change the point of diversion under an existing water right which has a place of use outside of this State, or to change the place of use of water from a location in this State to a location outside this State under an existing right, must file an application with the State Engineer for a permit to do so pursuant to provisions of NRS 533.324 to 533.450, inclusive, and chapter 534 of NRS.

2. The State Engineer may approve such an application if the State Engineer determines that the applicant's use of the water outside this State complies with the requirements of NRS 533.324 to 533.450, inclusive, and those provisions of chapter 534 of NRS pertaining to the appropriation of water. In making the determination, the State Engineer shall consider:

(a) The supply of water available in this State;

(b) The current and reasonably anticipated demands for water in this State;

(c) The current or reasonably anticipated shortages of water in this State;

(d) Whether the water that is the subject of the application could feasibly be used to alleviate current or reasonably anticipated shortages of water in this State;

(e) The supply and sources of water available to the applicant in the state in which the applicant intends to use the water;

(f) The demands placed on the applicant's supply of water in the state in which he or she intends to use the water; and

(g) Whether the request in the application is reasonable, taking into consideration the factors set forth in paragraphs (a) to (f), inclusive.

3. The State Engineer may, as a condition to the approval of such an application, require the applicant to file a certificate from the appropriate official in the state in which the water is to be used, indicating to the satisfaction of the State Engineer that the intended use of the water would be beneficial and that the appropriation is feasible.

4. A person who is granted a permit pursuant to this section shall comply with the laws and regulations of this State governing the appropriation and use of water, as amended from time to time, and any change in the point of diversion, manner of use or place of use of water under a permit issued pursuant to this section is subject to the requirements of this section.

5. The State Engineer may, as a condition of the approval of any permit granted pursuant to this section, require that the use of water in another state be subject to the same regulations and restrictions that may be imposed upon the use of water in this State.

6. Upon submittal of an application under this section, the applicant and, if the applicant is a natural person, the personal representative of the person, are subject to the jurisdiction of the courts of this State and to service of process as provided in NRS 14.065.

Questions

1. While the AFC files, subsequent related documents and the Preliminary Staff Assessment occasionally reference Nevada LORS that may be applicable to the proposed project (such as traffic, hazardous materials, waste management, etc.) why has no discussion included Nevada LORS and jurisdictional analysis of the Pahrump Valley Groundwater Basin as well?

2. If the CEC Staff were to incorporate applicable Nevada LORS related to the authorization of water allocations from the Pahrump Valley Groundwater Basin, would the proposed project still be compliant with LORS?

3. What dialogue, if any, has the CEC or Inyo County engaged in with the Nevada State Engineer regarding coordinating the shared water resources of the Pahrump Valley Groundwater Basin, which has historically and predominately been used for the public interest of the people of Nevada?

4. Is it the applicant's or CEC's intention to circumvent impacts to Nevada or Nevada Water Right Laws in order serve California's interest at the expense of the people of Nevada?

6. WARDS OF THE STATE: NOT LESS THAN SIGNIFICANT

Background

The Water Supply section of the Preliminary Staff Assessment provides several discussions outlining historical declining trends throughout the Pahrump Valley Groundwater Basin, the Stump Springs area, and on-site and off-site local wells within the proposed project's vicinity. The following quotes were issued by the CEC Staff in the Preliminary Staff Assessment, Water Supply section.

> *"The Hidden Hills irrigation well has experienced a steady decline in water levels since 1959". Pg. 831*
>
> *"The Orchard well has also experienced a steady decline in water levels since 1959. A significant decline was observed in the 1980s, but no recovery has occurred." Pg. 831*
>
> *"Staff believes that these water level trends in the southern portion of the PVGB indicate overdraft conditions and that project pumping could exacerbate basin wide overdraft." Pg. 833*
>
> *"Significant adverse impacts can occur when groundwater storage conditions are in a state of perpetual decline, causing increased extraction costs, costs of well deepening or replacement, land subsidence, water quality degradation, and environmental impacts." Pg. 830-831*

There are no arguments from Staff regarding these proven facts of downward water level trends, no attempt to hide the fact that water levels have been steadily declining throughout the region or that both the Northern and Southern ends of Pahrump are in a state of overdraft without sufficient recharge. In other words, there is no question by Staff that water availability to support the HHSEGS and its potential direct, indirect and cumulative impacts are of significant concern.

After outlining data that supports these findings, Staff then proceeds to develop a long, long list of mitigation measures and recommendations that purport to offset project impacts until they are finally able to conclude that, if implemented, the proposed project's impacts will move from significant to less than significant. Unless you are a local well owner…..

Below is one of the many mitigation measures the CEC Staff recommends should be required of local well owners to offset the projects impacts.

Water Level Monitoring for Neighboring Wells, Mitigation and Reporting
Water Supply-6.C.3

"If water levels have been lowered more than 10 feet below preconstruction levels at the southern site boundary, and monitoring data provided by the project owner show these water level changes are different from background trends and are caused by Project pumping, then the project owner shall provide mitigation to the impacted well owner(s). Mitigation shall be provided to the impacted well owners that experience 10 feet or more of Project induced drawdown if the CPM's inspection of the well monitoring data confirms changes to water levels and water level trends relative to measured pre-project water levels, and the well (private owners well in question) yield or performance has been significantly affected by Project pumping. The type and extent of mitigation shall be determined by the amount of water level decline induced by the Project, the type of impact, and site specific well construction and water use characteristics. If an impact is determined to be caused by drawdown from more than one source, the level of mitigation provided shall be proportional to the amount of drawdown induced by the Project relative to other sources. In order to be eligible, a well owner must provide documentation of the well location and construction, including pump intake depth, and that the well was constructed and usable before Project pumping was initiated. The mitigation of impacts shall be determined as follows:……" pg. 857

If you own a local well lucky enough to be included in the 5-mile radius of the proposed project, any impacts of the proposed project will all be taken care of. Well, that is if you agree to the terms, conditions, stipulations, and contracts that in essence, hands over significant authority and jurisdiction of your land, wells, equipment and water to the State and the applicant for the next 25-30 years. Well, maybe – as the requirements set forth to insure the proposed project's impacts are "less than significant" are also subject to change and/or eliminated at any time after project approval as outlined below in another Staff recommended Condition of Certification.

Water Level Monitoring for Neighboring Wells, Mitigation and Reporting
Water Supply-6.C.4

"After the first five-year operational and monitoring period the CPM shall evaluate the data and determine if the monitoring program for water level measurements should be revised or eliminated. Revision or elimination of any monitoring program elements shall be based on the consistency of the data collected. The determination of whether the monitoring program should be revised ***or eliminated*** *shall be made by the CPM." Pg. 860*
[Emphasis added.]

Many of the actual terms of the contracts required to "mitigate" project impacts will not be known by local well owners until after the proposed project is approved. But some of them are projected to include:

- You will be required to allow the CEC and the applicant to enter your property at will.
- You will be required to open up your well and equipment to all manner of inspection.
- You will be required to open up your books to prove your water use, pump rates, and electrical use - both historically and in the future.
- You will be required to depend on the applicant as the sole source of monitoring data.
- You will be required to prove that declining water levels are the result of the proposed project ***AND*** you will be required to prove ***to what degree***.
- You will be required to allow this kind of invasion and intrusion over the life of the project or however long the CEC wants to honor the contract.

However, these burdens to local well owners are not created equal. While the CEC and/or applicant must be allowed to do all of the below to local well owners to accommodate the proposed project, no such legal entitlements will be granted equally to the local stakeholders affected by these requirements. These include:

- Local well owners will not be entitled to enter the applicant's property at will.
- Local well owners will not be entitled to physically survey the applicant's on-site wells, equipment and water usage.
- Local well owners will not be entitled to require independent monitoring of the well monitoring network.
- Local well owners will not be entitled to review of the applicant's monitoring data, historical usage, electrical usage, pump rates, etc.

As a local well owner, your water supply will be dependent on whatever terms and agreements the CEC and applicant state those terms and agreements will be and your reimbursement or offset of any impacts will rest solely on their decisions.

If, after complying with every possible stipulation set forth by the CEC to insure your water supply is protected from impacts resulting from the proposed project and a dispute, problem or legal entanglement results between the local well owner and CEC and/or applicant, you will not be entitled to any legal or financial support from the state of California as the taxpayer funded judicial system will be engaged in protecting the State's terms and agreements instead.

If you are a local well owner that may have a dispute with how the CEC and/or applicant is reporting, protecting or not complying with the terms, agreements, contracts, and stipulations, you will solely bear the burden of proof of proving your case and you will have to prove it against the vast resources of the State.

In addition to the burdens of legal fees and resource requirements associated with potential legal disputes, the average well owner will also have to overwhelmingly prove their case through funding expert testimony and securing reams of data secured by qualified specialists who can argue with authority that the CEC and/or applicant is in error, or that they have been negligent, fraudulent, not complied with applicable LORS, violated the terms of agreement, etc.

If a dispute by a local well owner between the CEC CPM and/or applicant unfolds in the "best case scenario", meaning the local well owner is able to secure all of the above and overwhelmingly prove their case, it will most likely be appealed and the process will begin again.

However, given the current environment of industry preferred contracts, part of the terms of the required contracts will most likely demand local stakeholders sign an arbitration agreement that will also waive their rights to a judicial process.

If you are a local well owner, these mitigation measures DO NOT reduce the proposed projects impacts to "less than significant" as they shift the burden of proof to the well owners and result in significant personal impacts deemed by Staff as required to accommodate the proposed project.

Local well owners and community stakeholders will NOT be entitled to any protection, benefits, reimbursements, compensation or support save solely they agree to the terms, conditions, agreements, and/or stipulations approved of by the applicant and the CEC, all of which are subject to change over the life of the proposed project.

Questions

1. Why does the CEC Staff believe that subjecting local well owner to significant burdens results in reducing the proposed projects impacts to "less than significant"?

2. If a local well owner does not agree to or comply with the Conditions of Certification, are the projects impacts still reduced to "less than significant"?

3. If the proposed mitigation measures are based predominately on a 10 ft. drawdown trigger level but the CPM can eliminate the monitoring program, how will the terms and agreements designed to protect the local well owners from project impacts be honored or upheld?

4. If the applicant has sole control over the monitoring network, which will be used as the singular source of data to determine trends, impacts and degrees of significance, what happens in the event that local well owners dispute what the applicant is reporting or how the CEC chooses to interpret those reports?

5. In the event a local well owners water supply and/or well is impacted but the CEC/applicant disputes that impact, there are only two reasonably foreseeable options the well owner will have to remedy the impacts; a) they can spend their time and money legally challenging the CEC/applicant's data and decisions, b) they can spend their time and money fixing the problems so as to regain their water supply. How is either of these options not considered a significant burden on local well owners?

6. Given the fact that there is currently no development or any other projects capable of producing significant impacts such as the proposed project can, why would Staff stipulate a two-prong requirement for mitigation that includes "*water level changes are different from background trends*" <u>*AND*</u> "*are caused by project pumping*"?

7. What is the definition of "*significantly affected by Project pumping*"? Who makes this determination, the applicant, the CEC or the well owner?

8. Who determines the "*impact of drawdown*" induced solely by the proposed project?

9. Who will be monitoring "any other source" that occurs in the proposed projects vicinity in order to determine proportional impacts and mitigation measures?

10. Does the CEC have the authority to require "any other source" of development that may occur over the life of the project to subject themselves to the same terms and conditions the applicant and local stakeholders must agree to so that those sources may be included in the proportional equation of mitigation?

11. In the event the CEC eliminates the monitoring program over the life of the proposed project, what methodology, data collection, proof, etc., will local well owners be required to produce that will satisfy the CEC and/or applicant's requirements for determining merits of impacts?

12. In the event the CEC eliminates the monitoring program over the life of the proposed project, what methodology, data collection, proof, etc., will local well owners be required to produce that will satisfy the CEC and/or applicant's requirements for determining merits of impacts <u>*induced solely by the proposed project*</u>?

13. Outside the CEC, which agency in the State of California has the jurisdiction and responsibility to protect the public interest of local well owners and community stakeholders in the project vicinity should those well owners not agree to the terms and conditions set forth by the CEC to accommodate the proposed project?

14. In the event the CEC eliminates the monitoring program over the life of the proposed project and a dispute arises regarding the terms, agreements, conditions, stipulations, contract, data, methodology, etc., where will local well owners go to file their grievances and/or receive compensation?

7. NOT ALL LIFE FORMS ARE CONSIDERED EQUAL

Background

While the CEC Staff incorporates stipulations for local well owners that include revising and/or eliminating the well monitoring network program that proposed mitigation measures hinge on, they simultaneously recommend an iron clad lifetime monitoring program to protect local groundwater dependent vegetation as quoted below.

> Water Level Monitoring for Groundwater-Dependent Vegetation, Mitigation and Reporting: Water Supply-8.C.1
> *"On a monthly basis for the first year of operation and quarterly thereafter <u>for the life of the project</u>, collect water level measurements from wells identified in the groundwater monitoring program to evaluate operational influence from the Project. Operational parameters (i.e., pumping rate) of the water supply wells shall be monitored. Additionally, quarterly groundwater-use in the southern Pahrump Valley shall be estimated based on available data." Pg. 864* [Emphasis added.]

Questions

1. Why does the local vegetation get an lifetime monitoring mandate but monitoring data and programs that supposedly help local well owners can be revised and/or eliminated after only five years?

8. ADVERSE IMPACTS TO WATER RESOURCES: CEC STAFF & MITIGATION MEASURES

Background

I recognize the issues surrounding the water supply in the Pahrump Valley and proposed project site are complex and as of yet, still unresolved. However, I wanted to thank the CEC Staff and Mike Conway especially, for all the hard work and willingness to stand up for the what's "right". This includes not allowing the applicant to use limited data to draw unsupportable conclusions, acknowledging the current deficiencies in the water supply analysis, and trying to draft mitigation measures that considered the protection of the water supply to all those who's lives depend on it!

APPENDIX I

MARY LEE WILEY TRUST FUND
IRRIGATION WATER PERMITS
YEARS 2009-2010

MARY LEE WILEY TRUST FUND
NEVADA DIVISION OF WATER RESOURCES
WATER APPLICATIONS: MONTHLY REPORT FOR JUNE 2009
AVAILABLE AT: http://water.nv.gov/data/monthly/

Monthly Report For The Month of: June 2009 Run Date: 10 July 2012

APP NO.	DATE	CHG	BASIN	OWNER NAME	SOURCE	DESCRIPTION	CO	DIV RATE	MOU	POINT OF DIVERSION SEC	TWN	RNG
78678	Jun-30	18976	105	SIERRA NEVADA SW ENTERPRISES	UG		DO	3.41	IRR	10	12N	20E
78679	Jun-30	48911	051	NEWMONT GOLD COMPANY	UG	PW-5	EU	2.09	MM	31	34N	52E
78680	Jun-30	48911	051	NEWMONT GOLD COMPANY	UG	PW-1	EU	0.79	MM	06	33N	52E
78681T	Jun-30	48911	051	NEWMONT GOLD COMPANY	UG	PW-1	EU	0.79	MM	06	33N	52E
78682	Jun-30	47160	162	MARY LEE WILEY TRUST	UG		NY	0.04	IRR	25	22S	54E
78683	Jun-30	53296	162	MARY LEE WILEY TRUST	UG		NY	0.04	IRR	25	22S	54E
78684	Jun-30	24690	162	MARY LEE WILEY TRUST	UG		NY	0.23	IRR	25	22S	54E
78685	Jun-30	24690	162	MARY LEE WILEY TRUST	UG		NY	0.23	IRR	26	22S	54E
78686	Jun-30	64636	101	CHURCHILL COUNTY	UG		CH	0.02	MUN	35	19N	28E
78687	Jun-30	64635	101	CHURCHILL COUNTY	UG		CH	0.02	MUN	35	19N	28E
78688	Jun-30	51964	101	JOE FREY AND JERRY FREY	UG		CH	2.00	IRR	27	19N	28E
78689	Jun-30	23704	162	UTILITIES INC OF CENTRAL NEVADA	UG	WELL #22	NY	0.05	MUN	10	20S	53E
78690	Jun-30	34644	162	UTILITIES INC OF CENTRAL NEVADA	UG	WELL #22	NY	0.04	MUN	10	20S	53E
78691	Jun-30	67008	087	CAPURRO-QUILICI INVESTMENTS	STR	TRUCKEE RIVER	WA	0.05	DEC	19	19N	19E
78692	Jun-30	67008	091	CAPURRO-QUILICI INVESTMENTS	STR	TRUCKEE RIVER	WA	0.02	MUN	31	19N	18E
78693T	Jun-20	692DTR	088	MARTIN W AND SUSAN JOHNSON	STR	STEAMBOAT OR GALENA CREEK AS DECREED	WA	0.00	DEC	05	17N	20E
	Jun-20	692DTR	088	MARTIN W. AND SUSAN JOHNSON	STR	STEAMBOAT OR GALENA CREEK AS DECREED	WA	0.00	DEC	05	17N	20E
	Jun-20	693DTR	088	MARTIN W AND SUSAN JOHNSON	STR	STEAMBOAT OR GALENA CREEK AS DECREED	WA	0.00	DEC	05	17N	20E
	Jun-20	693DTR	088	MARTIN W. AND SUSAN JOHNSON	STR	STEAMBOAT OR GALENA CREEK AS DECREED	WA	0.00	DEC	05	17N	20E
	Jun-20	694DTR	088	MARTIN W AND SUSAN JOHNSON	STR	STEAMBOAT OR GALENA CREEK AS DECREED	WA	0.00	DEC	05	17N	20E
	Jun-20	694DTR	088	MARTIN W. AND SUSAN JOHNSON	STR	STEAMBOAT OR GALENA CREEK AS DECREED	WA	0.00	DEC	05	17N	20E
	Jun-20	660DTR	088	MARTIN W AND SUSAN JOHNSON	STR	STEAMBOAT OR GALENA CREEK AS DECREED	WA	0.00	DEC	05	17N	20E
	Jun-20	660DTR	088	MARTIN W. AND SUSAN JOHNSON	STR	STEAMBOAT OR GALENA CREEK AS DECREED	WA	0.00	DEC	05	17N	20E
	Jun-20	666DTR	088	MARTIN W AND SUSAN JOHNSON	STR	STEAMBOAT OR GALENA CREEK AS DECREED	WA	0.00	DEC	05	17N	20E

4

http://images.water.nv.gov/images/Book_Records/78000/78682.pdf

Permit No. 78682

THE STATE OF NEVADA

PERMIT TO CHANGE THE PUBLIC WATERS OF THE STATE OF NEVADA HERETOFORE APPROPRIATED

Name of applicant:	**LINDA N. EKINS AND MARY J. MCMONIGLE, CO-TRUSTEES OF THE MARY LEE WILEY TRUST**
Source:	**UNDERGROUND**
Basin:	**PAHRUMP VALLEY**
Manner of Use:	**IRRIGATION**
Period of Use:	**January 1st to December 31st**
Priority Date:	**11/26/1963**

****

APPROVAL OF STATE ENGINEER

This is to certify that I have examined the foregoing application, and do hereby grant the same, subject to the following limitations and conditions:

This permit to change the point of diversion and place of use of the waters of an underground source as heretofore granted under Permit 47160, Certificate 13394, is issued subject to the terms and conditions imposed in said Permit 47160, Certificate 13394 and with the understanding that no other rights on the source will be affected by the change proposed herein. This well shall be equipped with a two (2) inch opening for measuring depth to water and a totalizing meter must be installed and maintained in the discharge pipeline near the point of diversion and accurate measurements must be kept of water placed to beneficial use. The totalizing meter must be installed before any use of the water begins or before the proof of completion of work is filed. If the well is flowing, a valve must be installed and maintained to prevent waste. This source is located within an area designated by the State Engineer pursuant to NRS 534.030. The State retains the right to regulate the use of the water herein granted at any and all times.

The permittee shall keep monthly records of the amount of water pumped from this well and the records must be submitted to the State Engineer on an annual basis within 30 days after the end of each calendar year.

This permit does not extend the permittee the right of ingress and egress on public, private or corporate lands.

The issuance of this permit does not waive the requirements that the permit holder obtain other permits from State, Federal and local agencies.

If any water under this permit is cancelled or any water is not put to beneficial use, it will revert to the groundwater source and not back to the base water right.

This permit is issued for the irrigation of 3.0 acres within a 160.0 acre parcel, further indentified by the Nye County Assessor as APN 47-121-12.

The point of diversion and place of use are as described on the submitted application to support this permit.

(Continued on Page 2)

Permit No. 78682

The amount of water to be appropriated shall be limited to the amount which can be applied to beneficial use, **and not to exceed 0.038 cubic feet per second or 15.0 acre-feet annually, and not to exceed a duty of 5.0 acre-feet per acre of land irrigated from any and/or all sources.**

Work must be prosecuted with reasonable diligence and proof of completion of work shall be filed on or before: **November 18 2011**

Water must be placed to beneficial use and proof of the application of water to beneficial use shall be filed on or before: **November 18 2012**

Map in support of proof of beneficial use shall be filed on or before: **November 18 2012**

IN TESTIMONY WHEREOF, I, JASON KING, P.E.,

State Engineer of Nevada, have hereunto set my hand and the seal of my office, this 18th day of **November**, A.D. **2010**

J. K. P.E.
State Engineer

Completion of work filed _____

Proof of beneficial use filed _____

Cultural map filed _____

Certificate No. _____ Issued _____

Application No. 78682

APPLICATION FOR PERMISSION TO CHANGE POINT OF DIVERSION, MANNER OF USE AND PLACE OF USE OF THE PUBLIC WATERS OF THE STATE OF NEVADA HERETOFORE APPROPRIATED

THIS SPACE FOR OFFICE USE ONLY

Date of filing in State Engineer's Office JUN 3 0 2009

Returned to applicant for correction _____

Corrected application filed _____ Map filed JUN 3 0 2009

The applicant Linda N. Ekins and Mary J. McMonigle, Co-Trustees of the Mary Lee Wiley Trust

c/o Steven R. Scow 612 South Seventh (Street Address or P.O. Box) of Las Vegas (City or Town)

Nevada 89101 (State and Zip Code), hereby make(s) application for permission to change the

☒ Point of diversion ☒ Place of use ☐ Manner of use ☐ of a portion

of water heretofore appropriated under (Identify existing right by Permit, Certificate, Proof or Claim Nos. If Decreed, give title of Decree and identify right in Decree.)
Permit 47160, Certificate 13394

1. The source of water is underground 0.038 (Name of stream, lake, underground, spring or other sources.)
2. The amount of water to be changed 15 afa (Diversion Rate = ~~0.02~~ CFS) (Second feet, acre-feet. One second foot equals 448.83 gallons per minute.) 7/6/09 AZG
3. The water to be used for irrigation & domestic (Irrigation, power, mining, commercial, etc. If for stock, state number and kind of animals. Must limit to one major use.)
4. The water heretofore used for irrigation & domestic (If for stock, state number and kind of animals.)
5. The water is to be diverted at the following point (Describe as being within a 40-acre subdivision of public survey and by course and distance to a found section corner. If on unsurveyed land, it should be stated.)
   within the SW1/4 of the NE1/4 of Section 25, T. 22 S., R. 54 E., M.D.M. or at a point from which the E 1/4 corner of said Section 25 bears S 81°51'11" E. at a distance of 2339.46 feet
6. The existing point of diversion is located within (If point of diversion is not changed, do not answer.)
   SW1/4 of the NW1/4 of Section 2, T. 21 S., R. 53 E., M.D.M. or at a point from which the N1/4 corner of said Section 2 bears N. 55° 12' 00" E., at a distance of 2986.0 feet

162-404

78682

7. Proposed place of use (Describe by legal subdivisions. If for irrigation, state number of acres to be irrigated.)

3 acres in the SW1/4 SW1/4 NE1/4 of Section 25, T. 22 S., R. 54 E., M.D.M.

8. Existing place of use (Describe by legal subdivisions. If changing place of use and/or manner of use of irrigation permit, describe acreage to be removed from irrigation.)

1.1 acres in Lot 15, Block F of Game Bird Subdivision
1.0 acres in Lot 16, Block F of Game Bird Subdivision
0.9 acres in Lot 17, Block F of Game Bird Subdivision
= 3 acres all in the SW1/4 NW1/4 of Section 2, T. 21 S., R. 53 E., M.D.B.&M.

9. Proposed use will be from January 1 (Month and Day) to December 31 (Month and Day) of each year.

10. Existing use permitted from January 1 (Month and Day) to December 31 (Month and Day) of each year.

11. Description of proposed works. (Under the provision of NRS 535.010 you may be required to submit plans and specifications of your diversion or storage works.)(State manner in which water is to be diverted, i.e. diversion structure, ditches, pipes and flumes or drilled well, pump and motor, etc.)
drilled well, pump, and motor

12. Estimated cost of works $20,000

13. Estimated time required to construct works 3 years
If well completed, describe well.

14. Estimated time required to complete the application of water to beneficial use 5 years

15. Provide a detailed description of the proposed project and its water usage (use attachments if necessary):
(Failure to provide a detailed description may cause a delay in processing.)
Irrigation for alfalfa or other crops

16. Miscellaneous remarks:

2009 JAN 30 P 12:50

(702) 791-0308
Phone No.

sharrop@nevadafirm.com
E-mail

By Stacy D. Harrop
Print or type name clearly

Signature, applicant or agent

Santoro, Driggs, Walch
Company Name

400 S. 4th Street, 3rd Floor
Street Address or P.O. Box

Las Vegas, NV 89101
City, State, Zip Code

APPLICATION MUST BE SIGNED BY THE APPLICANT OR AGENT

$150 FILING FEE AND SUPPORTING MAP MUST ACCOMPANY APPLICATION

http://images.water.nv.gov/images/Book_Records/78000/78683.pdf

Permit No. 78683

THE STATE OF NEVADA

PERMIT TO CHANGE THE PUBLIC WATERS OF THE STATE OF NEVADA HERETOFORE APPROPRIATED

Name of applicant:	**LINDA N. EKINS AND MARY J. MCMONIGLE, CO-TRUSTEES OF THE MARY LEE WILEY TRUST**
Source:	**UNDERGROUND**
Basin:	**PAHRUMP VALLEY**
Manner of Use:	**IRRIGATION**
Period of Use:	**January 1st to December 31st**
Priority Date:	**02/10/1975**

****

APPROVAL OF STATE ENGINEER

This is to certify that I have examined the foregoing application, and do hereby grant the same, subject to the following limitations and conditions:

This permit to change the point of diversion and place of use of the waters of an underground source as heretofore granted under Permit 53296 is issued subject to the terms and conditions imposed in said Permit 53296 and with the understanding that no other rights on the source will be affected by the change proposed herein. This well shall be equipped with a two (2) inch opening for measuring depth to water and a totalizing meter must be installed and maintained in the discharge pipeline near the point of diversion and accurate measurements must be kept of water placed to beneficial use. The totalizing meter must be installed before any use of the water begins or before the proof of completion of work is filed. If the well is flowing, a valve must be installed and maintained to prevent waste. This source is located within an area designated by the State Engineer pursuant to NRS 534.030. The State retains the right to regulate the use of the water herein granted at any and all times.

The permittee shall keep monthly records of the amount of water pumped from this well and the records must be submitted to the State Engineer on an annual basis within 30 days after the end of each calendar year.

This permit does not extend the permittee the right of ingress and egress on public, private or corporate lands.

The issuance of this permit does not waive the requirements that the permit holder obtain other permits from State, Federal and local agencies.

If any water under this permit is cancelled or any water is not put to beneficial use, it will revert to the groundwater source and not back to the base water right.

This permit is issued for the irrigation of 2.4 acres within a 160.0 acre parcel, further indentified by the Nye County Assessor as APN 47-121-12.

The point of diversion and place of use are as described on the submitted application to support this permit.

(Continued on Page 2)

Permit No. 78683

The amount of water to be appropriated shall be limited to the amount which can be applied to beneficial use, **and not to exceed 0.04 cubic feet per second or 12.0 acre-feet annually, and not to exceed a duty of 5.0 acre-feet per acre of land irrigated from any and/or all sources.**

Work must be prosecuted with reasonable diligence and proof of completion of work shall be filed on or before: **November 18 2011**

Water must be placed to beneficial use and proof of the application of water to beneficial use shall be filed on or before: **November 18 2012**

Map in support of proof of beneficial use shall be filed on or before: **November 18 2012**

IN TESTIMONY WHEREOF, I, JASON KING, P.E.,

State Engineer of Nevada, have hereunto set my hand and the seal of my office, this 18th day of **November**, A.D. **2010**

J. King P.E.
State Engineer

Completion of work filed _____

Proof of beneficial use filed _____

Cultural map filed _____

Certificate No. _____ Issued _____

Application No. 78683

APPLICATION FOR PERMISSION TO CHANGE POINT OF DIVERSION, MANNER OF USE AND PLACE OF USE OF THE PUBLIC WATERS OF THE STATE OF NEVADA HERETOFORE APPROPRIATED

THIS SPACE FOR OFFICE USE ONLY

Date of filing in State Engineer's Office JUN 3 0 2009

Returned to applicant for correction _____

Corrected application filed _____ Map filed JUN 3 0 2009

The applicant Linda N. Ekins and Mary J. McMonigle, Co-Trustees of the Mary Lee Wiley Trust

c/o Steven R. Scow 612 South Seventh (Street Address or P.O. Box) of Las Vegas (City or Town)

Nevada 89101 (State and Zip Code), hereby make(s) application for permission to change the

☒ Point of diversion ☒ Place of use ☐ Manner of use ☐ of a portion

of water heretofore appropriated under (Identify existing right by Permit, Certificate, Proof or Claim Nos. If Decreed, give title of Decree and identify right in Decree.)
Permit 53296

1. The source of water is underground (Name of stream, lake, underground, spring or other sources.)
2. The amount of water to be changed 12 afa (Diversion Rate = 0.02CFS) 0.04 (Second feet, acre-feet. One second foot equals 448.83 gallons per minute.) 7/6/09 AG
3. The water to be used for irrigation & domestic (Irrigation, power, mining, commercial, etc. If for stock, state number and kind of animals. Must limit to one major use.)
4. The water heretofore used for irrigation & domestic (If for stock, state number and kind of animals.)
5. The water is to be diverted at the following point (Describe as being within a 40-acre subdivision of public survey and by course and distance to a found section corner. If on unsurveyed land, it should be stated.)
   within the SW1/4 of the NE1/4 of Section 25, T. 22 S., R. 54 E., M.D.M. or at a point from which the E1/4 quarter corner of said Section 25 bears S 81°51'11"E. at a distance of 2339.46 feet
6. The existing point of diversion is located within (If point of diversion is not changed, do not answer.)
   SW1/4 of the SE1/4 of Section 12, T.21S., R.53E., M.D.M. or at a point from which the S1/4 corner of said Section 12 bears S. 68° 42' 00" W., at a distance of 717.15 feet.

182-54

78683

7. Proposed place of use (Describe by legal subdivisions. If for irrigation, state number of acres to be irrigated.)

2.4 acres in the SW1/4 SW1/4 NE1/4 of Section 25, T. 22 S., R. 54 E., M.D.M.

8. Existing place of use (Describe by legal subdivisions. If changing place of use and/or manner of use of irrigation permit, describe acreage to be removed from irrigation.)

2.4 acres within 5 acres located in the SW1/4 SE1/4 Section 12, T.21S., R.53E., M.D.M.

9. Proposed use will be from January 1 (Month and Day) to December 31 (Month and Day) of each year.

10. Existing use permitted from January 1 (Month and Day) to December 31 (Month and Day) of each year.

11. Description of proposed works. (Under the provision of NRS 535.010 you may be required to submit plans and specifications of your diversion or storage works.)(State manner in which water is to be diverted, i.e. diversion structure, ditches, pipes and flumes or drilled well, pump and motor, etc.)
drilled well, pump, and motor

12. Estimated cost of works $20,000

13. Estimated time required to construct works 3 years
If well completed, describe well.

14. Estimated time required to complete the application of water to beneficial use 5 years

15. Provide a detailed description of the proposed project and its water usage (use attachments if necessary):
(Failure to provide a detailed description may cause a delay in processing.)
Irrigation for alfalfa or other crops

2009 JUN 30 PM 12:51

16. Miscellaneous remarks:

(702) 791-0308
Phone No.

sharrop@nevadafirm.com
E-mail

By Stacy D. Harrop
Print or type name clearly

Signature, applicant or agent

Santoro, Driggs, Walch
Company Name

400 S. 4th Street, 3rd Floor
Street Address or P.O. Box

Las Vegas, NV 89101
City, State, Zip Code

APPLICATION MUST BE SIGNED BY THE APPLICANT OR AGENT

$150 FILING FEE AND SUPPORTING MAP MUST ACCOMPANY APPLICATION

http://images.water.nv.gov/images/Book Records/78000/78684.pdf

Permit No. 78684

THE STATE OF NEVADA

PERMIT TO CHANGE THE PUBLIC WATERS OF THE STATE OF NEVADA HERETOFORE APPROPRIATED

Name of applicant:	**LINDA N. EKINS AND MARY J. MCMONIGLE, CO-TRUSTEES OF THE MARY LEE WILEY TRUST**
Source:	**UNDERGROUND**
Basin:	**PAHRUMP VALLEY**
Manner of Use:	**IRRIGATION**
Period of Use:	**January 1st to December 31st**
Priority Date:	**06/07/1962**

****

APPROVAL OF STATE ENGINEER

This is to certify that I have examined the foregoing application, and do hereby grant the same, subject to the following limitations and conditions:

This permit to change the point of diversion and place of use of a portion of the waters of an underground source as heretofore granted under Permit 24690, Certificate 7016, is issued subject to the terms and conditions imposed in said Permit 24690, Certificate 7016 and with the understanding that no other rights on the source will be affected by the change proposed herein. This well shall be equipped with a two (2) inch opening for measuring depth to water and a totalizing meter must be installed and maintained in the discharge pipeline near the point of diversion and accurate measurements must be kept of water placed to beneficial use. The totalizing meter must be installed before any use of the water begins or before the proof of completion of work is filed. If the well is flowing, a valve must be installed and maintained to prevent waste. This source is located within an area designated by the State Engineer pursuant to NRS 534.030. The State retains the right to regulate the use of the water herein granted at any and all times.

The permittee shall keep monthly records of the amount of water pumped from this well and the records must be submitted to the State Engineer on an annual basis within 30 days after the end of each calendar year.

This permit does not extend the permittee the right of ingress and egress on public, private or corporate lands.

The issuance of this permit does not waive the requirements that the permit holder obtain other permits from State, Federal and local agencies.

If any water under this permit is cancelled or any water is not put to beneficial use, it will revert to the groundwater source and not back to the base water right.

This permit is issued for the irrigation of 18.4 acres within a 40.0 acre parcel, further indentified by the Nye County Assessor as APN 47-121-09.

The point of diversion and place of use are as described on the submitted application to support this permit.

(Continued on Page 2)

Permit No. 78684

The amount of water to be appropriated shall be limited to the amount which can be applied to beneficial use, **and not to exceed 0.225 cubic feet per second or 92.0 acre-feet annually, and not to exceed a duty of 5.0 acre-feet per acre of land irrigated from any and/or all sources.**

Work must be prosecuted with reasonable diligence and proof of completion of work shall be filed on or before: **November 18 2011**
Water must be placed to beneficial use and proof of the application of water to beneficial use shall be filed on or before: **November 18 2012**
Map in support of proof of beneficial use shall be filed on or before: **November 18 2012**

IN TESTIMONY WHEREOF, I, JASON KING, P.E.,

State Engineer of Nevada, have hereunto set my hand and the seal of my office, this 18th day of **November**, A.D. **2010**

J. King P.E.
State Engineer

Completion of work filed _____

Proof of beneficial use filed _____

Cultural map filed _____

Certificate No. _____ Issued _____

Application No. 78684

APPLICATION FOR PERMISSION TO CHANGE POINT OF DIVERSION, MANNER OF USE AND PLACE OF USE OF THE PUBLIC WATERS OF THE STATE OF NEVADA HERETOFORE APPROPRIATED

THIS SPACE FOR OFFICE USE ONLY

Date of filing in State Engineer's Office JUN 3 0 2009

Returned to applicant for correction _____

Corrected application filed _____ Map filed JUN 3 0 2009

The applicant Linda N. Ekins and Mary J. McMonigle, Co-Trustees of the Mary Lee Wiley Trust

c/o Steven R. Scow 612 South Seventh (Street Address or P.O. Box) of Las Vegas (City or Town)

Nevada 89101 (State and Zip Code), hereby make(s) application for permission to change the

☒ Point of diversion ☒ Place of use ☐ Manner of use ☒ of a portion

of water heretofore appropriated under (Identify existing right by Permit, Certificate, Proof or Claim Nos. If Decreed, give title of Decree and identify right in Decree.)
Permit 24690, Certificate 7016

1. The source of water is underground
(Name of stream, lake, underground, spring or other sources.)

2. The amount of water to be changed 92 afa (Diversion Rate = ~~0.15~~ CFS) 0.2252
(Second feet, acre-feet. One second foot equals 448.83 gallons per minute)

7/6/09 AE

3. The water to be used for irrigation & domestic
(Irrigation, power, mining, commercial, etc. If for stock, state number and kind of animals. Must limit to one major use.)

4. The water heretofore used for irrigation & domestic
(If for stock, state number and kind of animals.)

5. The water is to be diverted at the following point (Describe as being within a 40-acre subdivision of public survey and by course and distance to a found section corner. If on unsurveyed land, it should be stated.)
within the NE1/4 of the NW1/4 of Section 25, T. 22 S., R. 54 E., M.D.M. or at a point from which the NW quarter corner of said Section 25 bears N63°08'16" W. at a distance of 2209.22 feet

6. The existing point of diversion is located within (If point of diversion is not changed, do not answer.)
NE1/4 of the SW1/4 of Section 7, T. 21 S., R. 54 E., M.D.M. or at a point from which the W1/4 corner of said Section 7 bears N. 67° 29' 00" W., at a distance of 2498.25 feet.

162-114

78684

7. Proposed place of use (Describe by legal subdivisions. If for irrigation, state number of acres to be irrigated.)

18.4 acres in the S1/2 NE1/4 NW 1/4 of Section 25, T. 22 S., R. 54 E., M.D.M.

8. Existing place of use (Describe by legal subdivisions. If changing place of use and/or manner of use of irrigation permit, describe acreage to be removed from irrigation.)

18.4 acres in the N1/2 SW1/4 of Section 7, T. 21 S., R. 54 E., M.D.M.

9. Proposed use will be from January 1 (Month and Day) to December 31 (Month and Day) of each year.

10. Existing use permitted from January 1 (Month and Day) to December 31 (Month and Day) of each year.

11. Description of proposed works. (Under the provision of NRS 535.010 you may be required to submit plans and specifications of your diversion or storage works.)(State manner in which water is to be diverted, i.e. diversion structure, ditches, pipes and flumes or drilled well, pump and motor, etc.)
drilled well, pump, motor

12. Estimated cost of works $20,000

13. Estimated time required to construct works 3 years
If well completed, describe well.

14. Estimated time required to complete the application of water to beneficial use 5 years

15. Provide a detailed description of the proposed project and its water usage (use attachments if necessary):
(Failure to provide a detailed description may cause a delay in processing.)
irrigation for alfalfa or other crops

2009 JUN 30 PM 12:51

16. Miscellaneous remarks:

(702) 791-0308
Phone No.

sharrop@nevadafirm.com
E-mail

By Stacy D. Harrop
Print or type name clearly

Signature, applicant or agent

Santoro, Driggs, Walch
Company Name

400 S. 4th Street, 3rd Floor
Street Address or P.O. Box

Las Vegas, NV 89101
City, State, Zip Code

APPLICATION MUST BE SIGNED BY THE APPLICANT OR AGENT

$150 FILING FEE AND SUPPORTING MAP MUST ACCOMPANY APPLICATION

http://images.water.nv.gov/images/Book Records/78000/78685.pdf

Permit No. 78685

THE STATE OF NEVADA

PERMIT TO CHANGE THE PUBLIC WATERS OF THE STATE OF NEVADA HERETOFORE APPROPRIATED

Name of applicant:	**LINDA N. EKINS AND MARY J. MCMONIGLE, CO-TRUSTEES OF THE MARY LEE WILEY TRUST**
Source:	**UNDERGROUND**
Basin:	**PAHRUMP VALLEY**
Manner of Use:	**IRRIGATION**
Period of Use:	**January 1st to December 31st**
Priority Date:	**06/07/1962**

****

APPROVAL OF STATE ENGINEER

This is to certify that I have examined the foregoing application, and do hereby grant the same, subject to the following limitations and conditions:

This permit to change the point of diversion and place of use of a portion of the waters of an underground source as heretofore granted under Permit 24690, Certificate 7016, is issued subject to the terms and conditions imposed in said Permit 24690, Certificate 7016 and with the understanding that no other rights on the source will be affected by the change proposed herein. This well shall be equipped with a two (2) inch opening for measuring depth to water and a totalizing meter must be installed and maintained in the discharge pipeline near the point of diversion and accurate measurements must be kept of water placed to beneficial use. The totalizing meter must be installed before any use of the water begins or before the proof of completion of work is filed. If the well is flowing, a valve must be installed and maintained to prevent waste. This source is located within an area designated by the State Engineer pursuant to NRS 534.030. The State retains the right to regulate the use of the water herein granted at any and all times.

The permittee shall keep monthly records of the amount of water pumped from this well and the records must be submitted to the State Engineer on an annual basis within 30 days after the end of each calendar year.

This permit does not extend the permittee the right of ingress and egress on public, private or corporate lands.

The issuance of this permit does not waive the requirements that the permit holder obtain other permits from State, Federal and local agencies.

If any water under this permit is cancelled or any water is not put to beneficial use, it will revert to the groundwater source and not back to the base water right.

This permit is issued for the irrigation of 18.4 acres within a 40.0 acre parcel, further indentified by the Nye County Assessor as APN 47-121-06.

The point of diversion and place of use are as described on the submitted application to support this permit.

(Continued on Page 2)

Permit No. 78685

The amount of water to be appropriated shall be limited to the amount which can be applied to beneficial use, **and not to exceed 0.225 cubic feet per second or 92.0 acre-feet annually, and not to exceed a duty of 5.0 acre-feet per acre of land irrigated from any and/or all sources.**

Work must be prosecuted with reasonable diligence and proof of completion of work shall be filed on or before: **November 18 2011**
Water must be placed to beneficial use and proof of the application of water to beneficial use shall be filed on or before: **November 18 2012**
Map in support of proof of beneficial use shall be filed on or before: **November 18 2012**

IN TESTIMONY WHEREOF, I, JASON KING, P.E.,

State Engineer of Nevada, have hereunto set my hand and the seal of my office, this 18th day of **November**, A.D. **2010**

J. King P.E.
State Engineer

Completion of work filed _____

Proof of beneficial use filed _____

Cultural map filed _____

Certificate No. _____ Issued _____

Application No. 78685

APPLICATION FOR PERMISSION TO CHANGE POINT OF DIVERSION, MANNER OF USE AND PLACE OF USE OF THE PUBLIC WATERS OF THE STATE OF NEVADA HERETOFORE APPROPRIATED

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Date of filing in State Engineer's Office JUN 3 0 2009

Returned to applicant for correction

Corrected application filed Map filed JUN 3 0 2009

The applicant Linda N. Ekins and Mary J. McMonigle, Co-Trustees of the Mary Lee Wiley Trust

c/o Steven R. Scow 612 South Seventh (Street Address or P.O. Box) of Las Vegas (City or Town)

Nevada 89101 (State and Zip Code), hereby make(s) application for permission to change the

☒ Point of diversion ☒ Place of use ☐ Manner of use ☒ of a portion

of water heretofore appropriated under (Identify existing right by Permit, Certificate, Proof or Claim Nos. If Decreed, give title of Decree and identify right in Decree.)
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1. The source of water is underground (Name of stream, lake, underground, spring or other sources.)
2. The amount of water to be changed 92 afa (Diversion Rate = ~~0.15~~ CFS) 0.2252 (Second feet, acre-feet. One second foot equals 448.83 gallons per minute.) 7/6/09 AE
3. The water to be used for irrigation & domestic (Irrigation, power, mining, commercial, etc. If for stock, state number and kind of animals. Must limit to one major use.)
4. The water heretofore used for irrigation & domestic (If for stock, state number and kind of animals.)
5. The water is to be diverted at the following point (Describe as being within a 40-acre subdivision of public survey and by course and distance to a found section corner. If on unsurveyed land, it should be stated.)
   within the SE1/4 of the NE1/4 of Section 26, T. 22 S., R. 54 E., M.D.M. or at a point from which the NE quarter corner of said Section 26 bears N 30° 57' 51" E. at a distance of 1938.14 feet
6. The existing point of diversion is located within (If point of diversion is not changed, do not answer.)
   NE1/4 of the SW1/4 of Section 7, T. 21 S., R. 54 E., M.D.M. or at a point from which the W1/4 corner of said Section 7 bears N. 67° 29' 00" W., at a distance of 2498.25 feet.

162-N4

78685

7. Proposed place of use (Describe by legal subdivisions. If for irrigation, state number of acres to be irrigated.)

18.4 acres in the W1/2 SE1/4 NE 1/4 of Section 26, T. 22 S., R. 54 E., M.D.M.

8. Existing place of use (Describe by legal subdivisions. If changing place of use and/or manner of use of irrigation permit, describe acreage to be removed from irrigation.)

18.4 acres in the N1/2 SW1/4 of Section 7, T. 21 S., R. 54 E., M.D.M.

9. Proposed use will be from January 1 (Month and Day) to December 31 (Month and Day) of each year.

10. Existing use permitted from January 1 (Month and Day) to December 31 (Month and Day) of each year.

11. Description of proposed works. (Under the provision of NRS 535.010 you may be required to submit plans and specifications of your diversion or storage works.)(State manner in which water is to be diverted, i.e. diversion structure, ditches, pipes and flumes or drilled well, pump and motor, etc.)
drilled well, pump, motor

12. Estimated cost of works $20,000

13. Estimated time required to construct works 3 years
If well completed, describe well.

14. Estimated time required to complete the application of water to beneficial use 5 years

15. Provide a detailed description of the proposed project and its water usage (use attachments if necessary):
(Failure to provide a detailed description may cause a delay in processing.)
Irrigation for alfalfa or other crops

2009 JUN 30 P1:12:51

16. Miscellaneous remarks:

(702) 791-0308
Phone No.

sharrop@nevadafirm.com
E-mail

By Stacy D. Harrop
Print or type name clearly

Signature, applicant or agent

Santoro, Driggs, Walch
Company Name

400 S. 4th Street, 3rd Floor
Street Address or P.O. Box

Las Vegas, NV 89101
City, State, Zip Code

APPLICATION MUST BE SIGNED BY THE APPLICANT OR AGENT

$150 FILING FEE AND SUPPORTING MAP MUST ACCOMPANY APPLICATION

WILDLIFE

“And the fruit is rotten
The serpent's eyes shine
As he wraps around the vine.”

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20. WILDLIFE

This is the second comment submission regarding the Application for Certification for the proposed Hidden Hills Solar Electric Generating System (11-AFC-02). This submission should be considered supplemental too, but not a replacement of, the first submission. All page numbers cited are from the pdf. format and do not represent the actual page numbers specific to the documents.

1. AVIAN ATTRACTANTS: NON-NATIVE PERIMETER TREES

Background

The applicant intends on planting non-native "trees" along the perimeter fence to screen project facilities(1). These non-native trees will be a wildlife attractant, especially so for birds. Given the fact that the heliostat mirror field is considered lethal to birds and the majority of wildlife now inhabiting the area will be removed due to project operations, it is inappropriate to plant trees or tall vegetation to screen the proposed project to reduce visual impacts to humans at further expense to local wildlife and migratory birds.

Questions

3. Are there other ways that the applicant can "screen" the perimeter besides trees or other vegetation that won't be an attractant to birds, insects or other wildlife?

4. Approximately how many of these non-native trees would be required to screen the perimeter and what would be their annual water requirements over the life of the project?

2. SPECIAL STATUS PLANTS: ADVERSE IMPACTS TO POLLINATORS

Background

Several species of Special Status Plants have been identified in and around the proposed project site. In the CEC Staff's Bio-20.2, Special-Status Plant Compensatory Mitigation Plan, Staff describes the possible invocation of a "Partial onsite avoidance through site design modifications" if there are insufficient opportunities for offsite mitigation.(2)

Here, an avoidance distance of 300 and 500 feet is outlined with respect to project components and their proximity to potential special-status plant avoidance areas.

However, this mitigation measure doesn't account for or explain if these special-status plants would be capable of survival and/or reproduction if no local pollinators could access the plants due to their proximity to the lethal heliostat field.

(1) 2012-05-07 Applicants Data Response Set 2E, TN-65092, Data Response #182, pg. 9.
(2) CEC Preliminary Staff Assessment, Biological Resources, Bio-20.2, pg. 352.

Questions

1. Do any of the special-status plant species in or around the proposed project site require pollinators to survive and/or reproduce?

2. If so, would the potential impacts of allowing these plant species to be in such close proximity to the heliostat fields result in local pollinators being unable or unwilling to approach these plants?

3. VERIFICATION OF FAIRY SHRIMP IN PROJECT VICINITY

Background

On April 18, 2012, Applicant submitted Supplemental Data Response Set 3, Biological Resources (BR-2), regarding a question posed by the Center for Biological Diversity during a CEC workshop on February 22, 2012 concerning the potential occurrence of federally protected fairy shrimp within the project site or surrounding vicinity. The applicant's response asserted that;

> *"….federally protected fairy shrimp have no potential to occur on the HHSEGS site*" and,
>
> "*The ranges of the six federally protected fairy shrimp species that occur elsewhere in California do not include the Pahrump Valley, and their habitats are far removed from the HHSEGS site. There are no known locations in Inyo or San Bernardino counties*."(1)

I know for a fact that fairy shrimp were once located in the Pahrump Valley and historically occurred 1.6 miles south from the proposed project's boundaries. Whether these fairy shrimp are a federally protected species, I cannot say as I could find no photo that accurately portrayed them.

<u>Discovery of "Charleston View" Fairy Shrimp</u>

Between the ages of ten to twelve years old (approximately 1975-1977), my brother and I and two neighboring children, Becky and Mike Peek, were kicking around Charleston View during summer vacation looking for something to do.

We had walked up one of the main roads of Charleston View and discovered a collection of large dirt berms, which still had residual water left over from a large rain sometime earlier. It was hot and finding water was always exciting, especially because of the fun that could be had with mud!

Without paying much attention, we all jumped in the pond and someone quickly discovered there were all kinds of these strange, ancient and prehistoric looking little "things" swimming all around. We jumped out of the pond and began examining them, stunned that anything that "swims" could be out in the desert, much less in a mud hole.

(1) Applicant Supplemental Data Response Set 3, Biological Resources (BR-2), tn-64836, pp. 3

After awhile, we decided we would fish them out and bring them home so we went back to get a bucket. Once the bucket was secured, we marched back and fished as many of the little "trilobites" as we came to call them, from the pond.

We brought them home in a bucket of water, cleaned out a round galvanized metal trough we sometimes used for watering animals, placed fresh water in it, dumped the trilobites in the trough and proceeded to watch them almost instantly die. We all felt really bad that we ended up killing them and wished we had left them alone.

The next summer, we checked the area again but found no pond and obviously, no trilobites. As far as I know, no one has ever gone back to the area again to see if they are still there.

As soon as I read the applicant's data response regarding "fairy shrimp", I immediately suspected they may be our "trilobites". The description of how fairy shrimp live and their habitat matched our experience exactly so I tried to research them online. I was unable to locate a photo that accurately portrayed them but did find one that was kind of in the ballpark (if memory serves me correct as it has been thirty some odd years now!)

<u>"Charleston View" Fairy Shrimp Description</u>

To the right is the closest photo I was able to find portraying the "*Charleston View Fairy Shrimp*" found on "Mojave Brad's Blog" as at least it shows their general shape. However, ours were much larger and grayish in color, not brown. (Photo Source: Mojave Brad http://mojavebrad.blogspot.com/2011/10/wonder-of-fairy-shrimp.html)

<u>"Charleston View" Fairy Shrimp Location</u>

The location of the pond that held these fairy shrimp is directly down Rose Ave., which is the same gravel road Orchard Well is located on but Orchard Well is on the opposite side of the Old Spanish Trail Highway (north)

From Orchard Well, head south on Rose Ave. for 1.6 miles. (Note: Google Maps has inaccurately identified this street as "Silver Street" but there is a clearly posted sign on the corner of the Old Spanish Trails Highway that states "Rose Avenue" across from the Orchard Well and old water storage tanks).

On the left hand side of the road (east) is a collection of dirt berms as well as an old agricultural well. The fairy shrimp were located in the dug out portion at the center of the dirt berms.

View of dirt berms from Rose Ave., 1.6 miles south from Orchard Well.
Fairy Shrimp were found in mid-1970's in pond formed in center.

Recommendations For Identifying "Charleston View" Fairy Shrimp

Based on my online research, two potential methods exist for identifying fairy shrimp species. The first is the removal of dirt from the area and hydrating it for a satisfactory incubation period. The second is to hydrate the area completely through water trucks and/or well pumping during the incubation process (a well is located in the immediate vicinity). Both these methods are feasible and can determine if the fairy shrimp still exist in this location as well as being able to identify the type of fairy shrimp species residing there in order to determine if they have any federally protected status.

Given the fact that the fairy shrimp location is in such close proximity to the project boundaries, this may also provide evidence that fairy shrimp, including federally protected species, have the potential to occur on the HHSEGS project site.

Identified Concerns/Issues

If fairy shrimp can be proven to be in the proximity of the project site, it is reasonable to assume they may also exist within the project boundaries as well. This is especially true considering the numerous ephemeral washes within and surrounding the project boundaries.

Currently, CEC Staff is advocating an almost zero tolerance for "standing water" within the project's boundaries in efforts to prevent wildlife attraction and possibly discourage increases in noxious and invasive weeds.

There is also unresolved and/or undisclosed issues surrounding site drainage, methods to be used to control flash flooding known to occur in the area. and full and detailed disclosure of site specific soil disturbances.

As a result, if fairy shrimp have the potential to occur in the HHSEGS project site, mandating a dispersal of all standing water as well as potential and significant habitat disturbances through construction and operational activity will result in a zero chance for any future fairy shrimp survival within or perhaps adjacent to the project boundaries.

Questions

1. How many species and occurrences of fairy shrimp have been identified as occurring in the Pahrump Valley?

2. Are there any special habitat requirements that protected species of fairy shrimp require that may also occur in the Pahrump Valley area?

3. If there are fairy shrimp that live within the boundaries of the proposed project site, will the combination of the extreme soil disturbances, soil displacement, industrialization and lack of standing water ensure they will be permanently eliminated from the proposed project site?

APPENDIX I

WILDLIFE OCCURENCES IN CHARLESTON VIEW & THE PAHRUMP VALLEY

WILDLIFE TESTIMONY

Known Wildlife Occurrences in Charleston View, CA

The following list of species was complied by a resident of Charleston View since 1973, species which they have personally witnessed on their property.

BIRDS

Blue jays
Buzzards
Cranes
Doves
Eagles
Egrets
Falcons
Finches (many, many kinds)
Geese
Hawks
Humming birds
Magpies
Mallard ducks
Owls (3 types)
Pelicans
Quails
Ravens
Road Runners
Sparrows
Starlings

MAMMALS

Badger
Bats (two types)
Bobcat
Coyote
Fox
Gopher
Kangaroo rat
Mice
Prairie dog
Rabbits (jack and cottontail)
Rats

INSECTS

Bees (at least 5 types + rare, shiny green)
Black ants
Beetles (many kinds)
Butterflies (many kinds)
Cockaroaches
Dragonfly
Glow worm
Grasshoppers
Hornet
Horsefly
Lace wings
Praying Mantis
Moths
Tecopa bomber (fly)
Red ants
Walking sticks
Wasps

REPTILES

Horned toads
Gila monsters
Gopher Snakes
King snakes
Lizards (several types)
Mojave Greens
Red racers
Sidewinders
Tortoises

A visiting crane, one of many migratory birds that pass through the proposed Hidden Hills SEGS project area that will risk injury or death if they pass through the lethal heliostat field during operations. The mitigation measures currently proposed to protect them only suggest the applicant count the bodies of those that die or are injured within its perimeters for at least a year.

An eagle hunting near SR160 and the Old Spanish Trail Highway.

These are one of many raptors that are routinely seen in the proposed Hidden Hills Solar Electric Generating System area and the Pahrump Valley.

Though a federally protected species, current mitigation measures to accommodate the HHSEGS merely propose they hunt somewhere else.

Photo taken 12/23/11.

Above: A local covey of quail scatter as humans approach. Photo taken 12/23/11.
Below: A local coyote passing through the applicant's Orchard Well area will most likely be exterminated under taxpayer funded predator control programs used to protect the environment. Photo taken 5/14/12

Above: A local raven pairs nest a few miles from the proposed project site and who will also most likely be targeted for extermination under the Raven Control Plan used to protect the federally threatened Desert Tortoise and their habitat. Ironically, desert tortoise and ravens have managed to life in the area together for quite some time. The only real threat to the desert tortoise and their habitat is the proposed project. Photo taken 4/25/12.

Below: Rabbit becomes roadkill, a significant food source for local raptors. Impacts to small mammal populations such as this due to increases in vehicular traffic of up to 2,700 trips a day remain unknown. Photo taken 5/14/12.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
FOR THE *HIDDEN HILLS SOLAR ELECTRIC GENERATING SYSTEM*

DOCKET NO. 11-AFC-02
PROOF OF SERVICE
(Revised 6/18/2012)

APPLICANT
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Board of County Supervisors
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Nye County Water District
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Interim General Manager
2101 E. Calvada Boulevard
Suite 100
Pahrump, NV 89048
llacy@co.nye.nv.us

*indicates change

INTERESTED AGENCIES (con't.)

National Park Service
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Cultural Resources Specialist
National Trails Intermountain Region
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Michael_Elliott@nps.gov

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karen.douglas@energy.ca.gov

CARLA PETERMAN
Commissioner and Associate Member
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Ken Celli
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Jennifer Jennings
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DECLARATION OF SERVICE

I, *Cindy R. MacDonald* , declare that on *July 19, 2012*, I served and filed copies of the attached *Supplemental Comments & Analysis*, dated *July 19th, 2012*. This document is accompanied by the most recent Proof of Service list, located on the web page for this project at: **www.energy.ca.gov/sitingcases/hiddenhills/index.html**.

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit or Chief Counsel, as appropriate, in the following manner:

(C*heck all that Apply*)

For service to all other parties:

___ Served electronically to all e-mail addresses on the Proof of Service list;

__X__ Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "e-mail preferred."

AND

For filing with the Docket Unit at the Energy Commission:

__X__ by sending an electronic copy in the mail with the U.S. Postal Service with first class postage; ***OR***

____ by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT
Attn: Docket No. 11-AFC-02
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.ca.gov

OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

____ Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission
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I declare under penalty of perjury that the foregoing is true and correct.

Cindy R. MacDonald